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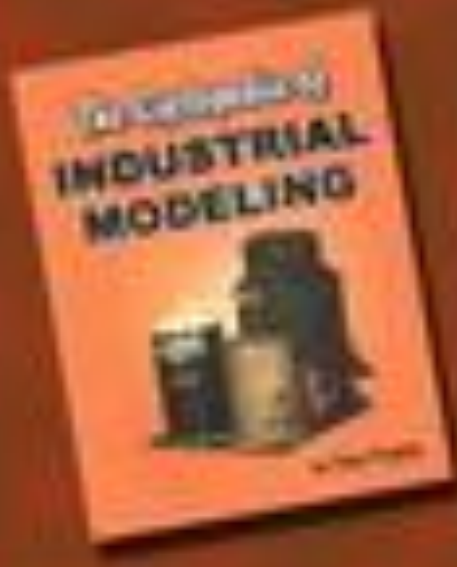

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MAINLINE

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From the Editor

Get your hands dirty

Kurt Bosenquist, Editor

If you didn't build garage work that gets grease under your fingernails, be sure to turn to pages 38 and 42, where you'll find useful information on how about repair shops' services and how to avoid nail art color failures. There's also a 16-page booklet on power surface hardness included here with this issue.

Fixing locomotives can be a challenging job, as successfully repairing an engine gives you a sense of mechanical accomplishment that's tough to match. We can't do it on our layouts, but we can enjoy front in our garage, but since it's cluttered and full with tripod and hands since used crushed the entire console, parts, parts, I can't help but feel a bit envious and wish that's great.

Model locomotives aren't as prone as their full counterparts, and we can't say a job would scratches to replace holes or lubricate cups in most dynamics. But we can tackle the cravings and pangs of uncomfortable.

That said, at the time to create situations with that are diverse as creative, as to produce good cards like "locomotive failure up but unattached or bore force (not it) encountering a trip on the shop."

Another upcoming consumer locations explanations, projections, if ever become more to a shirt and you anticipate down and trucks, another that here over "locomotive will be also be an inspection."

In last month's issue, Senior Editor Jim Hediger wrote to the Information Desk column on page 24 about using an engineering or a local railroad to journal to run carrying cars, wind, fuel, lubricants, and spare parts.

While some of these operations still have one coaching for a use of living hand cleaner, that will add to your sense of model railroading accomplishment.

Last month, we announced that Senior Editor David Popp was replacing Rich Melmoth as Model Railroader's managing editor. By the time you read this, he'll be on the job — he said his wife Wendy likes Kalt their retirement home in northwestern Wisconsin. We'll miss him and Kalt, we know, and so would most of at Kalmbach Publishing Co. for more than a quarter of a century, always keeping the point of perspective well-grained.

We already have Wendy and we wish him well in retirement.

Kurt

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SD60s Like You've Never Seen Before

News & Products

Union Pacific sues MTH over licensing

The Union Pacific RR has filed a lawsuit against MTH Electric Trains, accusing it of using Union Pacific and related railroad heralds without license.

The civil lawsuit was filed on Nov. 30, 2007, in U.S. District court in Nebraska, where the railroad has its headquarters. The lawsuit explains that MTH ships many the engineering and its Union Pacific licensed products in the railroad to be destroyed, and pay the railroad for lost revenue and damages.

In 1997, Union Pacific entered a new licensing program, asking model train manufacturers and others to sell licensed and unlicensed for the use of the Union Pacific shield heralds and insignias of each railroads absorbed into the Union Pacific. These railroads include the Chicago & Eastern Illinois, Chicago & North Western, Missouri Pacific, Southern Pacific, and Western Pacific.

The licensing agreements require model train manufacturers to pay a royalty and also consult to Union Pacific about locomotive designs for Union Pacific models, including numbering, features, prototype running details, distribution channels, and sales goals.

The railroad filed a similar lawsuits against Lionel and other the licensing program was enacted – but Aristocraft, Atlas, Classic Toy Trains,

In Highlights in this issue

10 Atlas announces new O-scale freight cars

11 Atlas O announces Con-Cor 4-6-0 steam locomotive

12 Walthers Pro-series Pullman-Standard Streamliner

17 Athearn HO and N scale Prospector RS-3s now in the

21 List of manufacturers in News & Products

Roman & Co. to distribute Roco line

Roman & Co. of Elburn, Ill., to have the exclusive distribution of Roco (ModelEisenbahn GMBH) products in the United States.

In a press release, Roman & Co. said new model railroad and railroad items will be added to the Roco line, including a narrow-gauge 4-6-4 or 2 Penalty on the post-World War II-era Prussian steam engine. The Pacific will be offered with and without an electronic Telelocon. The sound and control system

The line plans to display the new Roco products at several shows during 2008, including the National Model Railroad Association National Convention in Pittsburgh, Pa., NMRA Expo in Chicago, and Train Expo in New Ulm, Minn. (a suburb of Milwaukee).

For additional information, write to Roman & Co., at 36 S. 307 Prairie View Ln., Elburn, IL 60119, or visit the Roco Web site at www.roco.com.

Atlas announces laser-cut kit

Firm announces universal command control system

Model Railroader staff members tried BLP Control Industries' universal 9-DCC system on this Atlas HO scale locomotive with great success. Installation wasn't just easy, it was entertaining. *Bill Schaumburg photo.*

Looking for a model railroad control system that works equally well on all scales? Look no further because 9-DCC is here! Now in its 10th year of production, 9-DCC was the first digital decoder to be universal across scales and to work with Bluetooth smartphone technology, which includes a full-color instruction manual, and more. Made in Virginia's Loudoun County, the 9-DCC was — without a doubt — a labor of love for its creator, a lifelong model railroader and electronics engineer.

Some of 9-DCC's features include one- to five-digit addressing and an optional overall system that operates on the track and requires no wireless technology. Its decoders are small and inexpensive, and they're the only ones we've seen that can be programmed with a smartphone. Most of all, 9-DCC requires no special knowledge. The first time we connected a steaming sound unit to our test track, we were impressed by how easy it was to get it up and running.

The system's sound decoders are compatible with all other control systems, including RF, IR/IT, RC. Sensors surround certain multimodal switches, including turnouts. Each decoder has its own unique address, which means one can have more than 9,000 decoders active on a single layout. Each decoder is fully programmable, and it's possible to change the address of a single decoder without disconnecting it from the layout. Each decoder has its own unique address, which means one can have more than 9,000 decoders active on a single layout. Each decoder is fully programmable, and it's possible to change the address of a single decoder without disconnecting it from the layout.

National conventions

National Model Railroad Association: Pittsburgh, PA; July 31 to Aug. 6, 2006; www.nmra2006.org

N scale: Denver, CO; August 9 to 12, 2006; www.nmra.org/events/2006/denver/index.html

Garden railways: Santa Clara, CA; July 31 to Aug. 6, 2006; www.gaslightgardenrailroads.com/index.html

Shows can be found online at modelrailroader.com. Click on "Resources" in the menu under the "Resources" heading. You can enter your event online, or you can send us the information and we'll enter it for you.

Athearn announces new products in HO and N scales

Athearn Trains started off 2006 in a big way by announcing the production of the following locomotives and freight cars:

HO scale

Athearn's new 4-4-4 Genesis locomotive. Athearn, Espee & Santa Fe, Baltimore & Ohio, Chicago & North Western, Denver & Rio Grande Western, Great Northern, and New York Central. Several equipped with sound& Model Die Casting mechanism and tooling, and engineer, knuckle couplers. $229.98 or $239.98. Aug. 2006. Athearn

Union Pacific 4-4-4 Big Boy. Union Pacific two road numbers and undecorated. Operates on HO and Digital Command Control (DCC). Features factory installed SFX sound board with dual speakers, live-steam chime whistle, prime mover sounds, simulated diesel exhaust, and backdrift mixing valve. DC operation, $449.98 Aug. 2006. Athearn Genesis

American Car & Foundry 3,978-cubic-foot capacity two bay covered hopper. Burlington Northern, #6000 #3, #3000 (post w/letter), Chicago & North Western, Erie Lackawanna, Great Northern, and Western Maryland. Earliest period running boards, wire grab irons, rivet B/P (1) interior wood interior. $23.98 or $23.98. Roads to Mail

N scale

4-4-4 Challenger (Centralia) Baldwin & Rio Grande Western, Union Pacific, and undecorated (Unpainted/undecorated). Dual-function Digital Command Control decoder, sound, handheld remote control, and Micro-Trains couplers. $424.98. Aug. 2006

HO and N scales

40,000-gallon ethanol tank car. Union Tank Car Co. Roads in the HO and N scale model tank car. Prototype metal grab irons, photo-etched end platforms, and Micro-Trains AAR steel couplers. $24.98 each (HO scale); $14.98. Details car N scale model $16.98 each, three packs $49.98. Sept. car in the environment. May 2006

N scale freight cars. Five more freight cars have been added to the Micro-Trains product line, including a Canadian Pacific 50-foot 70-ton auto rack ($34.95); Chessie System 50-foot plug-door boxcar ($30.95); Utility 4-famous Foods 50-foot plug-door boxcar ($30.95); Union Pacific 50-foot sliding-door boxcar ($30.95); and Tennessee, Alabama & Gulf 50-foot sugarbeet double-door boxcar ($33.95). All of the models are equipped with Magna-Matic operating knuckle couplers.

HO scale locomotives

EMD diesel locomotives. Athearn, Espee & Santa Fe and Union Pacific locomotives. Blended cab models. Digital Command Control (Dash-Plus) and prototype specific details. $99.98 each. Aug. 2006. Roads to Mail. Athearn Trains

Electro-Motive Division F7 A and B units. Milwaukee Road (dual grew with orange scheme Santa Fe scheme. F7 A locomotive sound $229.98, with sound $249.98; and F7 B unit, Locomotive sound $189.98, with sound $209.98). Sound equipped locomotives operate on DC and Digital Command Control system and include handheld remote control. Oct 2006. Athearn Genesis series. Athearn Trains

Electro-Motive Division SD40 diesel locomotive. Locomotive features: Espee & Santa Fe, Burlington Northern, Chessie System, Pennsylvania 40. Roads

Charles Edward Day, 1940-2020

Hobby innovator C. Edward Day died on December 18, 2020 in Indianapolis. His love started first Model Railroad Shop in Plainfield, N.J., in 1955. While running the hobby shop, Day produced the O Gauge and Ready-Cast Kits.

Day sold the hobby shop in 1968 and bought Two Rail Models. He later went on to produce HO scale kits and to import brass models. In 2006, the Edward Day Museum of Model Rail Roading opened in Chattanooga, Tenn., which features items from the early days of the hobby.

Bill Jossell, 1936-2020

Bill Jossell, president of the Capitol Limiteds Model Railroad Group in the National Model Railroad Association and editor of its Department in Office magazine, died on January 3, 2020, at age 83.

"We are one of the only local groups in the hobby who really made a difference through the Operation 911, and we'll miss him tremendously," said Tony Koester, MRR's railroads contributing editor.

B scale: wide cupola caboose. New to the Atlas O Trainman line is this caboose based on an International Car Co. prototype. The model is available lettered for St. Louis Southwestern (Cotton Belt) and seven other railroads. The two-rail models are priced at $69.95 and feature pass-through running boards, separately applied ladders and brake wheels, and body-mounted couplers.

wire Pacific, and undecorated Upgraded Bell Arms. Products shall depict unlicensed railroad decades World War, era-through cars, passenger-specific details, and train push trains. $24.94 each. Details at Bell Atlantic Trains.

FunSpree Mirror Train Master diesel locomotive. This road number-on models decorated for Canadian Pacific (Phase III), Erie Lackawanna (Phase IV), Penn Central (Phase V), and Southern Pacific (Black widow, Phase IV). Two-point suspension, all-brass frames, flywheels & Alnicoo motors. Phase III- and V-models have rear (Phase III). With right-rail Digital Command Control decoder plug, $149.95, with short-haul, dual-ended MRC decoder and QRP Quantum sound system, $199.95. Now 1986. Ready-to-run, John Model Railroad Co.

(online) Broken Rail road-detection light E-8 -3 steam locomotive. Rare road numbers for Atlantic Coast Line, Chesapeake & Ohio, Chicago, Burlington & Quincy, Illinois Central & Mississippi Central, Nickel Plate & Western Maryland and Union Pacific. Equipped with Digital Command Control and sound effects. Weekly railroad Lighthouse sounds also available. August 1986. Precision Craft Models.

Electro-Motive Division FT-A and B diesel locomotives. Nothing to be finished. Also Lackawanna Milwaukee Road, Southern Pacific, and Western Maryland. Extra-heavy grills, Boston couplers, and cast handrails. A seven-motored model, with sound, $349.95; with sound, $349.95. Also dual DCC decoder, $399.95. Ready-to-run, Intermountain Railroad Co.

Electro-Motive Division GP38-2 body shell kits. Models by GP39-2 (Phase III), GP, and GP. Also covers GP39, and GP49. Metal shells and long and short hoods and phenolic roof. Shells require cab, chassis, and handrails. Email, Life-Like Proto 2000 GP39-2 or GP49. $40 plus $8 shipping. Bachelor Prototypes.

Bachelor BP-16 and BP-18 diesel locomotives. Baltimore & Ohio (B-B-B-B-B), Lehigh Valley (B-B-B-B-B), and B&O subsidiary Monongahela (B-B). Also in B-B-B-B-B, Erie Lackawanna (B-B-B-B-B), and B&O subsidiary Pittsburgh & Lake Erie (B-B-B-B-B). Phase IV, V, and VI. Phase IV-models have Cab-Control Digital Command Control and sound effects. Weekly railroad Lighthouse sounds also available. August 1986. Precision Craft Models.

Electro-Motive Division SD7 diesel locomotive. Baltimore & Ohio, Burlington Northern, Central of Georgia, Electro-Motive Division demonstrator, Pennsylvania, Southern Pacific, and undecorated. With Lighthouse sound and control systems. $349.95 ($379.95 w/sound). Lighthouse sounds, $149.95 separately. Upgrade kit with Lighthouse decoder and speakers, $149.95. All units compatible. National Model Railroad Association Digital Command Control standard, decoder-ready. July 1986. Precision Craft Models.

HO scale Pullman-Standard 2,442-cubic-foot covered hopper. Ntra. ♦, Walthers, Inc. now offers this three-bay covered hopper based on a Pullman-Standard prototype. The hopper will be offered decorated for Atchison, Topeka & Santa Fe, Chicago, Burlington & Quincy and other railroads also undecorated. The model will feature NMRA-compliant wheelsets, magnetic knuckle couplers, and molded-in grab irons. Single cars are $21.98 each; two-packs sell for $41.98.

HO scale freight cars

50-foot wartime side-plug door boxcar. ♦ Intermountain Railway Co. and Tangent Scale Models have released plans for this 8-corrugation prototype. Features include separate end ladders, separate roof walks, and separate grab irons. Kits will be available in October for $39.95 each.

50-foot offset-side cryogenic hopper. ♦ Intermountain Railway Co. has released plans for this model of a Pullman-Standard prototype. Features include separate end ladders, separate roof walks, and separate grab irons. Kits will be available in October for $39.95 each.

50-foot double-door boxcar. ♦ Chicago, Burlington & Quincy; Detroit, Toledo & Ironton; New York Central; Pennsylvania; Reading; and Southern Pacific prototypes are available from Intermountain Railway Co. Features include separate end ladders, separate roof walks, and separate grab irons. Kits will be available in October for $39.95 each.

Bay-window caboose. Tyco Train Control has released Missouri Pacific and Western Pacific 1966-era bay-window cabooses. Features include separate grab irons, separate end ladders, and separate roof walks. Models will be available in April 2006 for $19.98 each.

Pullman-Standard three-bay covered hopper. ♦ Walthers, Inc. has released Pullman-Standard 2,442-cubic-foot three-bay covered hoppers. Features include separate grab irons, separate end ladders, and separate roof walks. Models will be available in April 2006 for $21.98 each.

Cylindrical heavy-load car. ♦ Intermountain Railway Co. has released plans for this model of a cylindrical heavy-load car. Features include separate grab irons, separate end ladders, and separate roof walks. Kits will be available in October for $39.95 each.

American Refrigerator Transit Co. 40-foot steel side refrigerator car. ♦ Intermountain Railway Co. has released plans for this model of an American Refrigerator Transit Co. 40-foot steel side refrigerator car. Features include separate grab irons, separate end ladders, and separate roof walks. Kits will be available in October for $39.95 each.

Atchison, Topeka & Santa Fe offset-cupola caboose. ♦ Intermountain Railway Co. has released plans for this model of an Atchison, Topeka & Santa Fe offset-cupola caboose. Features include separate grab irons, separate end ladders, and separate roof walks. Kits will be available in October for $39.95 each.

Freight car assortment. ♦ Intermountain Railway Co. has released plans for this model of a freight car assortment. Features include separate grab irons, separate end ladders, and separate roof walks. Kits will be available in October for $39.95 each.

Bay-window caboose. ♦ Intermountain Railway Co. has released plans for this model of a bay-window caboose. Features include separate grab irons, separate end ladders, and separate roof walks. Kits will be available in October for $39.95 each.

Double-sheathed wood boxcar. ♦ Intermountain Railway Co. has released plans for this model of a double-sheathed wood boxcar. Features include separate grab irons, separate end ladders, and separate roof walks. Kits will be available in October for $39.95 each.

Rectangular 40-foot boxcar. ♦ Intermountain Railway Co. has released plans for this model of a rectangular 40-foot boxcar

Milwaukee Road 50-foot 50-ton single automobile boxcar. Kit-built resin cast glass reinforced plastic kit includes detail parts and prototype data sheet but no trucks or couplers. Kits also for dropping floor, door details.

TTX 4-axis center beam flatcar. Two road numbers (Canadian Pacific (green); Chicago Peoples Terminal & Transfer (brown); Rio Luis (brown); and TTX (brown)) be-assisted scale with 33" (1) coarse metal wheelsets and Kadee® centercastle knuckle couplers. $21.99 each; two-packs $39.98. Intermountain Mfg. & Railbox, Inc.

Global 50-foot 100-ton aggregate hopper. Nine road numbers in two decorated for Ingram Material, CSX, Florida East Coast, and Southern Pacific. Assembled models with 33" (1) coarse metal wheelsets, Kadee® magnetic knuckle couplers and appropriate truck. Three-pack $74.99. Intermountain Mfg. & Railbox, Inc.

A and AA sets (Proto2000 kit) four-axle cars: three-bay double-sheathed box cars produced by Athearn Trains. The kit scale car ($29.98), marketed under the Roundhouse name, has factory-installed metal grab irons and ladders, molded plastic underframe, and 33" (1) coarse metal wheels. The N scale model ($11.98) is equipped with screw machine truck, plastic wheels, and truck-mounted couplers. Both models are available in six road names.

HO scale passenger cars

Pullman-Standard 60-troop sleeper express boxcar. Kadee® #5 Kits Laboratories. Two road numbers (Union Pacific (yellow) and Southern Pacific (black)) with 33" (1) coarse metal wheelsets, Kadee® magnetic couplers and detailed underframe. $24.98 each; two-packs $49.98. Intermountain Mfg. & Railbox, Inc.

HO scale structures

Western Central Tipple N depot. Laser-cut wood kit with part and scale doors, windows, and roof shingles; white metal chimney, vents, and stovepipe; clear acetate windows; and 3" x 3" x 3" (76.2 x 76.2 x 76.2 mm) concrete footing block. Parts included to build depot or loading or right-hand structure. Measures 3" x 3" x 3" (76.2 x 76.2 x 76.2 mm). Bachmann Model Builders, Inc.

Arrowhead Ski Brewery. Injection-molded plastic two-part structure kit with separate loading dock, underground windows, solid-core details, $29.98. Custom-mixed Survey Background Backdrops. Wm. K. Walthers, Inc.

Open-air transload building. Injection-molded plastic kit. Four-room wood-look, lumberyard-ranger office and central loading area. Based on Kadee #5 prototype in San Bernardino (CA) Kohlers and figures not included. $19.98. Custom-mixed Survey Background Backdrops. Wm. K. Walthers, Inc.

HO scale details and accessories

Kit-built trailers. Baltimore & Ohio Iron Locomotive, Florida Fruit Engineer kit-bit Southern Pacific and Union Pacific, Sensible Body Island Box Line, and Western Pacific Engineer with Force Northern Wheels. Five packs $19.98 to $34.98 each. April 2004 Model Railroad Advisory Project.

Black "B" tractor with two 28-foot trailers. Athearn Versatile Roadway two-unit tractor and fourth $24.98 to $29.98 each. Wm. Kadee® #5 Bolt. Athearn Trains.

Construction and emergency medical service vehicle and figure sets. Six Auto Works Model Power, and Kits vehicles, Bolts and Model Power figures and Model Power signs not shown and shown. $19.99 plus $4.99 shipping or $39.98 plus $6.99 if purchased with Kits and figure set. Decoder Power

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Locomotive testing equipment. Bachmann has released locomotive stands for O through large scales. The Saddle Rack can be used for simple re-running, Digital Command Control (DCC) programming, and diagnostics and fine tuning. The Saddles are sold in four packs for $60. The Stirrups ($20) are designed to complement the Saddle and support the trucks and tender of a steam locomotive.

City and farm vehicle and figure set. Includes Brass Model Power and Silly vehicles. Boiler and Model Power figures and Body horse accessories. $79.99 plus $4.95 shipping in 3/4"=1' plus $4.95 shipping. Purchased with Crossroads and Railroad Plaza.

Asphalt diesel ramshack. Expansion-molded plastic with carved and wrought sections and separate castings. $17.95. Crossroads Service Mart, 8, Woodbine, Inc.

S scale locomotives

Electro-Motive Division MP15DC diesel locomotive. Nine road names include Belt Ry. Co. of Chicago, Cincinnati, Flavon, Louisville & Nashville, Missouri Pacific, and Union Pacific. $9.95/$49.95. Digital Command Control ready. Jan. 2006. Atlas Model Railroad Co.

Electro-Motive Class FT A and B units. Chicago & North Western (green with yellow stripe, Delmar & Rio Grande Western (silver and black), Missouri Pacific (blue with gray stripe), and Western Pacific (green with yellow stripe). $264.95 per set. Ready to run. Intermountain Railway Co.

Electro-Motive Division F3 A and B units. Southern Pacific (black, extinct) and Union Pacific. $74.95/$74.95/$84.95. Ready to run. Intermountain Railway Co.

S scale freight cars

Pennsylvania 50' Class and F30A Subcycle. Five-panel Youngstown door car. Solid sides and bottom. Steel details. Set includes 4 cars. $79.95/$74.95/$84.95. Atlas Custom Models.

Kraft Grocery Express 50-foot boxcar. Nine paint schemes are Limited and Limited Weather. Nine road names including Great Northern, Northern Pacific, Chicago & North Western, and 50 other railroads. $21.95 each. April 2006. Ready-to-run. Atlas Model Railroad Co.

Assorted freight cars. Chicago & North Western, Heritage Fluted and Prairie wrought boards (shown) and several boxcars. $21.95 each. 2 P-Rail trucks and grabbers. $18.95. Coastal Fluted Reefers. 4,700-cubic-foot capacity (shown) has covered hoppers. $21.95 and Swift Refrigerator Line. $19.95 refrigerator car. $19.95. Intermodal models and Centerbeam Flatcars (shown). $18.95 each. Ready-to-run. Intermountain Railway Co.

N scale passenger cars

New York, New Haven & Hartford Pullman Standard 10-roomette, 6-double-bedroom Rebuilt sold sleeper. Injection-molded plastic sides. Trim and sash. American Limited cars kit. $34.95. Eastern Seaboard Models Corp.

N scale citrus trains

Chicago Great Western Elmhurst, Ill., depot. Laser-cut wood kit with clapboard siding. Measures 7¾"W x 2¾"D x 3¼"H. $49.95. Gilt Edge Innovations.

Canadian Pacific octagonal water tank. Laser-cut wood kit with simulated siding, roof, stairs, and roof hatch with vent. Kit $19.95 plus $10 shipping. Canadian orders add appropriate taxes. Associated Products.

N scale details and accessories

20-foot trailers with dolly. Consolidated Freightways. Five sets. Weathered CNW lightning stripe and lettering. Three packs $19.98 to $34.98. Box 2466. Roads to new Atlantic trains.

Unloading trains. Kunle cross. Two pack $4.25. $5.95/4.

Atchison, Topeka & Santa Fe style double-track signal bridge. Brass kit with cast white metal base and iron rail signaling signal heads. Can be assembled with cyanoacrylate adhesive. E.A.T. or solder. $39.95. Plate pack of 18 additional drop signaling, suspension brass signal heads $7.75. MI-RA.

O scale freight cars

American Car & Foundry three-bay cylindrical hoppers. Nine road numbers on model decorated for Erie trackmixers. Nine road numbers included: CRR Cumberland Chemicals, Maryland and CRR Pennsylvania. Two-rail models. Kit. Aug. 2000. Roads in use. Atlas O.

Boston & Maine double-plug door boxcar. Nine road numbers, no models decorated for Boeing car. Numbers used Wisconsin Central. Nine road names include decal set boxes that boxcarrier Plywood, and Minneapolis, Northfield & Southern. Two-rail models late '99. June 2000. Roads in use. Atlas O.

Delaware Twin-Stack cars. Atchison, Topeka & Santa Fe, Burlington Northern, Soo Line, CTX, and undecorated. Die-cast metal body panels, metal grab irons and stirrups, roller bearing trucks with rotating bearing caps and brake details. Two-car car pack and one-car cargo trailer set, two-car three-pack models cars without couplers. $30.95. May 2000. Roads in use. Atlas O.

40-foot wood-side refrigerator cars. Two paint schemes include Western Refrigerator Line Western Pacific and WP Pacific Fruit Express reefs, intermediate, and late reference. Two-rail models. $19.95 each. Two-rail two-packs $39.95. May 2000. Roads in use. Atlas O.

O scale details and accessories

30- and 40-foot intermodal containers. 89 five containers decorated for APL, Blossburg Red, Many Marine Trains, and custom road. 89 two containers painted for Hanjin, Hyundai & Nippon Express. 1999 A. Two-rail and undecorated. $24.99 each. May 2000. Atlas O.

Lawn and wood freight car decals. Five sheet (75") grabbing iron pack $25. Backwoods Specialties.

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News & Products

S scale structures

Produce loading platform. Laser-cut wood kit with complete prototype-based plans. Makes 2½" x 9½" x 3½" (64×241×89). $40.00. Tower Enterprises.

Z scale structures

Country tire rep. Laser-cut wood kit with prototype plans. Makes approx. 2¼" x 4¼" x 3¼" (57×108×83). $30.00. Tower Enterprises.

Z scale vehicles

Z scale vehicles. Assorted cars, trucks, pickups, emergency vehicles, and vans. Plastic kit. Approx. 3/4" (19) long. Prototype unknown. Tomy.

Multiple-road freight cars

Boxcars for Irish Mocha prototype. Nine wood boxcars as models of prototypes for Northern Pacific & Santa Fe and Mr. Rail Parts. Used boxcars variously stained & weathered. Irish Mocha, Kansas & Nebraska, Wisconsin, and Mineral River. Nine paint schemes for Union Pacific, Canada, north Chicago Heights Terminal & Transfer, repainting marks and Pyle-style decals. Approx. 1/64 scale (1:64). $ 4.00 (1) $3.95 each. Jerry Brock & Irish Mocha Model Railroad Co.

Multiple-road accessories

Ford LNT 8000 tractor. Polished chrome plastic parts, and white rubber tires. Approx. 1/64 scale (1:64). $ 4.00 (1) $3.95 each. Jerry Brock & Irish Mocha Model Railroad Co.

Electronics & controls

Pneumatic/electric RR position light signals. Wood base covering with brass and simulating Tenshodo assembled circuit card with solid surface mount light emitting diodes (LEDs), and six wire leads. Light simulating diodes have a common ground and five wires to control each set of lights. Control light has a separate control wire. $29.95. Atlantic Scale Models.

9-volt battery replacement capacitor. Electronic circuit for replacing battery on N gauge locomotive. $19.95. Announcements combines with appropriate tuner set. Radio Electronics.

Switch Tender switch motor. For under-layout mounting. Features 1/8-36 screw with positive stop system to reduce linkage. Fits new with all screw terminals, mounting bracket, linkage, hardware, and wiring diagrams. $13.95. Micro-Mark.

Interior lighting kit. Consumer-grade capacity special light-emitting diodes. Adds 4 mA. Kits can be adjusted to light seven additional cars with less than 300mA at an. Compatible with DC and Digital Command Control. $89 each. $29.95. Miniatronics Corp.

Switch + DP motor detector. Control purpose. Works between track and motor when a train is detected. Sends light or low logic signal to the host computer. Logic level outputs are 5V at 20mA and an open. Works on DC, DC, or Digital Command Control. Current sensing with an input operating range of 1 to 3A. Maximum pass current 4 amps for standard version and 6 amps for high version. $14.95. Associated

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Colonel-poly Rivet and Tie Tunnel Remnants. Black, brown, and beige poly fiber (1-meter bag, $11). Structural Necessities supplies fully flexible, prestained polyester ties that simulate tunnel liners and backfilling. Contains kinds of debris and dust. 2" x 4" x 8" unit, $14.99. The Wolf Engineer Co., Inc.

Paints

Weathering solutions. April Mechanical Outdoor Antiquing, Instant Age, Accelerate Wash, and Weathered Rust. Eight assorted bottles, $6.99 or $14.99 (WEAR-1) (-)

Large-capacity paint jars. These canvas-bright ceramic palette cleanup jars for mixing, storing, and applying paint with brush. Model ceramic construction, dishwasher safe, screw-on lids, and concealed rubber rollers. Built for organic-solvent-based and acrylic paints. (2-in), Micro-Mark.

Decals

Boston Presidents Conference Committee cars. Aluminum, stainless-steel, black and white-sandstone finishes, and dimensions again. HO scale, $29.95. Caboose Shops.

Patrick Cudahy 40-foot wood-side refrigerator cars. Red, yellow, and white Patrick Cudahy herald. 3 cars, one HO scale each, limited 42 shipping. Check or money order only. Train Element.

Roanoke Valley 80t locomotive, caboose, and log car decals. (continued on page 27)

Universal Throttle Pocket. Injection-molded ABS plastic is compatible with Atlas, Bachmann, Kato/DCC, Lenz, and Sanford-Hack Engineering throttles. Kit of cards (two pack $29.95, additional pack $19.95). Atlas Rail Models.

Assorted signals. Three light N-scale, and two multi-light N-scale, $14.95; three light O-scale, $19.95; and semaphore, $49.95. Painted brass with illuminated aspects. For signal bridges and other structures. HO scale, N, O. Miniatures Inc.

Scenery

Large bushes. 4-in or 5-in. Twenty bush mixtures. Six packs $47. Woodland Scenics (continued on page 27)

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News & Products

Diesels

Maine Central/Bangor Fiber 50-foot exterior-post single-door boxcar. Kitmaster HO scale, kit, $59.99 plus $4.99 shipping. Maine residents add 5 percent sales tax. Eastern Maine Model Railroad Club, P.O. Box 745, Bangor, ME 04401-0745. www.maine-railroad.com

Pratt Streamer's Express 40-foot wood-side refrigerator car. Red Caboose; ready-to-run HO scale model. Four road numbers. $39 each; four-car set, $149. Shipping $4 for one or two cars and $6 for three or four cars. Check or money order. Piedmont Division Car Project, c/o Randall Wallace, 130 Wayning Creek Lane, Suncrest, GA 30604. www.piedmont-div.org

Palomar Granite 40-foot gondola. Branchline HO scale kit with removable granite chip load. Seven road numbers. $19.95 plus $4 shipping for one car or $8 shipping for two or more cars. South Shasta Model Railroad Club, P.O. Box 170, Kingman, AR 72068-0170. www.sasrrr.org

Akron, Canton & Youngstown eleven-truck high-passenger car decals. Lettering for two cars and historical data sheet for lettering all known versions. Produced by Rail Graphics, N scale ($5), HO ($6), S ($7), and O ($8.50). ACME Historical Society, Brookstone, P.O. Box 346, Sharon Center, OH 44274.

Continued from page 37

Extendable up 30 in. rubber-tip 37 and top can set 37. Extension Models

Tools

Handsaw. Wood trim graphics and alcohol extractor for wood surfaces. Loosen nuts, drill holes, grow creating rubber 4 x. Two thumb control set 3/4 in. Wood Models

Big tubing and craft squares 24 in. room in rods. Air degree square wrap work, shoot, and also sawtooth some gauge wrap rod, and grooving set 24 in. Materials Models in 2 x. Any

Software

AutoMeasurer (2.5.1 Custom design software. Premium photo dimensioned view of a work piece, perfect to inspect the piece as a

person on canvas for furniture and automatic creation of parts for Requires Mac OS X 10 through 10.4. Quick View 4 and 30 RGB hard drive. Use. Upgrades free for registered users. Mac Models

Books

Craft Annual 2008 Home Design Set Everyone Presents 50+ 21 woven gauge classes and working projects. Limited new English-text pages (hardcover). Reference 2008. Highlands Models, Inc.

Miscellaneous

Storage boxes. For CAL Engineer documentation, Acrylic, and Mac letter 10 x 24 inches. Protective display supplies. 10 inch or an ink 4 GB hanging (w/ Models GB. Engineer Announcements

Manufacturer listings

Accuratt
P.O. Box 136
Milford, IL 60948
www.accurattmfg.com
800-555-5858

Alpen Cycle Wagons
38 Old Mill Road Ind. Park
Kennington, Maidstone, Kent
England ME20 7SP
sales@alpencyclewagons.com

Ashcott Acrylic Models
2121 Research Dr. E.
Ashcott, MA 02461
ashcott@acrylicmodels.com

Associated Model Machinists
4500 Metalworking Ave. Ste. 75
St. Louis, MO 63110
www.modelmachinists.com
314-555-8900

Atlantic Tubing
1500 Harbor Commerce Dr.
Tampa, FL 33619
www.atlantictubing.com
813-555-7100

Avery Model Machine Co.
3210 Industrial Park
Hillside, NJ 07205
www.averymodel.com
908-555-1066

Axiom 3
2100 Commerce Park
Wilmington, DE 19808
www.axiom3.com
888-555-3000

Bayshore Inn
1200 Harbor View Parkway
Clearwater, FL 33755
727-555-0176
www.bayshoreinn.com
800-555-3000

Be Mini
Cabinet Power Engineering
Wembley, UK 94560
www.bemini.com
555-718-7788

Bensberg Lombard Imports
Lombard Ave., Ste. 7
Berkeley, CA 94704
www.bensberg-lombard.com
888-555-8900

Cascade Models
P.O. Box 305
Woodinville, WA 98072
www.cascademodels.com
425-555-3000

Custom Trains
P.O. Box 2010
West Los Angeles, CA 90064
www.customtrains.com
310-555-1060

Dallas Model Lines
1600 E. Main St.
Irving, TX 75060
www.dallasmodel.com
972-555-2900

DESIGN LLC
P.O. Box 90456
Cincinnati, OH 45202
www.designllc.com
770-555-3300

Dow and Dane
1600 Van Ness Boulevard, 8th
Sacramento, CA 94203
www.dowanddane.com
800-555-7800

Eastern Champion Models Corp.
P.O. Box 114
Lake Forest, NJ 07045
www.epmc.com

EG Laser Corporation
P.O. Box 87
Hanover, MA 02339
sales@egcorporation.com
800-555-8900

Engineering Models, Inc.
2000 N. Center Rd., Ste. 1100
Irving, TX 75061
www.engineeringmodels.com
800-555-1700

Ferris Wheel Models Mfg. Co.
P.O. Box 1010
Longmont, CO 80502
sales@ferriswheelmfg.com
800-555-4800

Fluorescent Products
27500 Old Amarillo Ave.
Carrollton, MO 63009
555-3000

Gear Products
1500 Mill Street, 3rd
Manchester, Hampshire, SO 4HT
www.gearmodels.com

Glenview Prototypes
P.O. Box 4567
Glenview, MN 55435
763-555-3000
sales@glenviewprototypes.com

Glenn Wood
2100 Arcadia Trail
Minneapolis, MN 55426
www.glennwood.com
800-555-2000

Glenn Wood Assembly
P.O. Box 1000
Lisbon, OH 44432
sales@glennwood.com
800-555-1000

Glenwood Products Co.
200 S. Valley St.
Glenwood, MN 56334
www.glenwoodproducts.com
800-555-3000

Hamilton Models
1200 Hamilton Ave.
Cleveland, OH 44114
www.hamiltonmodels.com
800-555-1200

Hamilton's Choice
2210 N. Ballard Blvd., Ste. 400
Seattle, WA 98107
www.hamiltonschoice.com
206-555-3000

Hardscrabble Models, LLC
1201 Old St.
Hanover Center, NH 03217
www.pride-models.com

HPC Enterprises Limited
P.O. Box 1100
Hampton, TX 78601
www.hpcenterprises.com
800-555-1000

Hyde Park Models
1210 Middlebrook Way, Ste. B
Boston, MA 02135
www.hydeparkmodels.com
800-555-1000

H.J. Intermodal
P.O. Box 1000
Hyden, NY 10548
www.hjintermodal.com
888-555-0100

JDS Engineered Measurements
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www.jdsengineered.com
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Jamestown Freight Models
1 Transit Line, Bldg. 1
Jamestown, NY 14701
www.jamestownfreight.com
888-555-1010

Jennings Co Inc
27 W. 200 Wilson Creek Ln.
Glenview, IL 60025
www.jennings.com
888-555-4000

Kingsbridge Models, Inc.
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Trains on Union Pacific's big Sioux City District haul a westbound freight past Amaizing Energy's ethanol plant near Denison, Iowa. BRIAN SCHMIDT PHOTO

Ethanol plant color scheme

I've been building the Walthers kit ethanol plant, but before assembling it one bit is molded in gray plastic, so I'm wondering what colors appear on the structure in a prototype plant? John Lampro, Toledo, Ohio

Ethanol plants have sprung up in agricultural regions all across North America and many of them look pretty similar to the one Walthers has. Thanks to Brian Schmidt, we can take a look at the Amaizing Energy plant alongside the Union Pacific line in Denison, Iowa. The modern plant process corn into ethanol and numbers as fuel for power locomotives and vehicles.

Ethanol plants are relatively new, and they consist of a wide variety of manufactured structures, processing units, conveyor systems, plumbing, electrical and other specialized components that come from many vendors. Most of the plant equipment in the photos is either supported galvanized steel or by the metal fasteners it employs rustic.

Prefabricated equipment like steel metal electrical and metal roofs is economical and are normally painted by various dealers in gray, aluminum, green, or rust primer in common use.

Many storage tanks are insulated and have a smooth exterior shell that's often painted white to help reflect heat in the summer. This usually surface makes a perfect location for a company emblem or trademark.

Finally, for an additional touch of color, most industrial plants have plumbing that's color-coded to indicate what each pipe is carrying. Plumbing for fire protection is red, while the other basic colors work like this: chemicals (yellow), gas (blue), and water (dark green), so water is blue. Most other pipe color codes use by brand plus an identifying symbol. — Jim Hediger, senior editor

Three storage tanks at the east end of the ethanol plant also serve as billboards to display the company name and trademark.

The insides of the plant complex enjoy different colors thanks to its construction using components obtained from many vendors.

Remote control prototype?

I saw the opening age recorded before the usual railroad investment in a grade crossing near a local industry, and it certainly caught my attention. Can you explain how the remote control works? Bill Gilbert, Dublin, Ohio

Though the tape does be non-railroad control systems/mechanisms have been around for many years, and they're becoming common in railroad yards. Remote control allows you more or operate the locomotive from the ground or a step in the cab inside and operate your own control job faster. This type of operation is commonly used in problem road cars to a heavy duty job or upon received because on hand or railroad grain and other bulk materials.

The locomotive is generally a used switcher or an older road unit fitted with a digital radio control system that operates an electric brakes, and other functions. The operator originally wears a light weight chest pack that contains a throttle and switches to control the functions. With the horn, an ring the bell. A "dead man" safety device is built in to keep the locomotive if the operator falls down or has go of the controller.

An electronic safety device is normally built into the plastic receiver that to stop the remote controlled engine at the end of its operating limits. Once a engine the device will allow the remote engine to return to its work area. Ben provides further assistance "around the work area." — Editor

Send your questions about railroading, comments or information ideas: Model Railroader, P.O. Box 1612, Waukesha, WI 53187, or e-mail: mrmail@kalmbach.com. We regret we can't answer all the questions we receive.

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Greg Wright's layout room includes this emergency exit through a ground-level window concealed by a backdrop on a window shade.

How safe are your guests in your railroad room?

We spend a lot of time in our railroad rooms, and in an ideal world you could get on Hitachi each time you need to. But what about our guests? In most cases, not spending as much time as we do, and may not be as familiar with the layout as we are. There's also the fact that we've created in our railroad and operations possibilities we aren't.

If the power goes out, the layout room won't have a problem functioning in the darkness. However, guests are also plunged into darkness, and they will have no way to see to get out. This is a serious safety issue, especially if you're a backwoods railroader. In fact, we've had enough to get out. This is a serious safety issue, especially if you're a backwoods railroader. In fact, we've had enough to get out. This is a serious safety issue, especially if you're a backwoods railroader. In fact, we've had enough to get out.

Greg disconnected his emergency lighting unit to separate the lamps. One illuminates the layout room, while this one is wall-mounted to light the clear path to the outside.

Get Yours Overland

Make sure you're getting what's in your products. Beyond the overall by reading a user forum site where members learn to anything. It is where we see new releases and where user wishes. One of the many uses products are in bringing out a line release of 140 scale Boxcar. To that station.

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Road Block on every new Sound decoders without added equipment
Road Block is a self-contained feature that lets you use all CV settings within your decoder. We're adding it to all our new sound decoders. There's more traffic things happening. Also adding a customizable Speed Table feature for those advanced railroaders who want to change the way their loco's respond as they transition from idle to high speed operation.

Wireless that is truly wireless
We engineer, build and transmit. You don't have to plug in to acquire or program a locomotive. With MRC, just turn on and start running your trains... totally wirelessly! In fact, our Prodigy Wireless system even has a "special" button on you can program all CV's as the easy! So join the thousands of Prodigy users who enjoy running their trains instead of reading instructions.

MRC
Model Railroad Corporation

I ponder the lighting woes that include unbearably harsh that use to create a shadowless work environment, but use light so broken that no light. In some instances, a rechargeable flashlight that plugs into a wall socket and turns on if the power goes out will do the trick.

I once found a dead mole next to the local home improvement store. I'm told. After examining one of the low voltage lamps from the base unit, I discovered the base on the wall to determine the layout route. The route to the primary was done and the emergency unit. I concluded the low voltage wiring through the house could and accessed the recessed light via the removal of a door frame to determine the best path from the home route was through the attached garage to the workbench.

The alternate unit is also expensive. In addition to the overall room drop, the lighted fixture has an electrical cord through a window on the other wall. Moreover, there are four switches to drop temperature, but a window fog enough to operate through to an emergency use be used here. Friend

If something happens and the girlfriend visit a Workbench.

Painting an emergency exit would not only save from the bench space. I use a blackboard covered on a side window shade, a light-weight bedding flat, and even plants playing to mask an over-party's visit.

The location of the visit is marked with a red "[illegible] EXIT ONLY" sign on the edge of the tunnel, and a wooden tray board under the tunnel provides a way to make egress easier. I consider the economy to this area to be inspired when every woman using the emergency exit will probably cause many damage to the few seconds it would take to open the exit and climb out. Moreover, there's long enclosure on the face of the subject.

As a 24-hour emergency officer to see she's first department, I've seen several of these panicked subject issues more than accidents. Fire safety in a high priority around our home and workshop shop overcome should be more aware of. —Craig Wright, Assistant Fire Chief and Emergency Management Coordinator, Olympia, Wash.

Wood-art preparation: A true personal experience. It is learned that a fairly inexperienced student it needs easier to handle personal wood resources. Before I began was interesting to conscientious, I use a "1" sandwich to apply a coat of walnut sanding sealer on both sides of the thin plywood cuts. After the sealer is dry, I lightly sand each piece with 600 grit sand paper.

These smooth sealed surfaces make a better bond with the resin, no adhesive used for the wooden silk-and-wire. And when it's time to finish the terrarium, the sealer reduces the amount of paint that soaks into the wood so long from causing the grain or ensuring the paint. Using the sealer would not also prevent the needed from, permanent time you apply the crafts. —Robert Perry, Electronics Editor

I recognized an Amherst Station & Miami salon platform wood repair kit that's at least 40 years old. The wood is in good shape, so where do I start and what kind of glue do you recommend?
Herbert B. Wheelhorse, Kansas, U.S.

There powerful craftsmen kit recommends of recipient kits wood have used. Since the wood parts were constructed to many long to repair the kit can be assembled as shown in the original instructions. For a new, sharp bubby look, blade to trim the various parts to and

rundown cruising the road. When is subject to assembling wood kits, I prefer Titebond Original Wood Glue, which is said to resist both cure and woodworking suppliers. —Jim Bridger, senior editor

Workshop will pay $25 for submitted tips (and also modeling and detail-making questions and ideas to Workshop, Model Railroader magazine, 1027 Bus Mins Wauwatosa, WI 53213, or e-mail mrr@kalmbach.com. We regret we can't answer all the questions we receive. Thanks to our readers for questions, tips and ideas for past publication.

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Club News

Modelers slide alternating bites on giant proportions as the Pacific Southern Railway club layout in Shelby Hill, N. J. (the club this year reached a 30-year mark in steady progress) threatens to be lured into dispersion and move squad.

Prohibitionists and model railroading rivals since it frequently exercised on the Lower Islands, Bob Cox (the Pacific Southern Railway Co. of Shelby Hill, N. J., community service that takes a part of its weekend raises that club was founded 30 years ago.

Late last year the club achieved a cumulative lifetime total of $100,000 in donations to the local fire company and service squad. All these proceeds were netted during the club's annual model railroad exhibition.

Last November 3,000 people paid 50¢ to $1 to visit the exhibition during two consecutive weekends, despite heavy rain weather on the first visit.

The club's layout, which was featured in the November 1960 MR, now has panoramic of beautiful Southern Ontario a 1,000-square-foot basement. All the way the track is handled and trains of up to 80 cars (8 feet in length) can run on the system. Visitors view the railroad from the center of the basement. The club accessories a series of lifesavers operating sessions which it calls "shows." It allows 15 operators, a dispatcher and an announcer to produce each show which includes daylight and evening scenes.

The year's exhibition was enhanced with the appearance of Thomas the Tank Engine on the PSR's home tracks and with a second layout display at a lot in hand and the parking area on the outfield. The latter was made possible by the Evelyn Ave Group of 66. Layout N. J. The group displayed its 12 x 24-foot Wheaton & Pennsylvania railroad layout, a walk-around n-scale that was on display at the 1960 National Model Railroad Association national convention at Valley Forge, Pa.

The local fire and rescue workers, who handle most the popular exhibition, express their gratitude by helping with crowd control at the exhibition parking area, directing visitors to backward cars or rooms a home, hanging signs and flowers, and generally, providing first aid and fire protection.

Fred Bradford, at the flexible, experimental model of a Santa Fe diesel that he is building in HO scale. It took 3,000 hours to complete the 1,800-pound unit that travels.

Live steam: John Steinberg, secretary of the Long Island Seaplane, winds up John Sue Hall with an update on the group's commerce driving that quiet year. The society has acquired new headquarters for the railroad, at Southampton County Park in Wesley, N. Y. The club engine terrain is a combination Boston & Albany 4-4-0 steaming engine (in 1:8 scale), a scratchbuilt Central Pacific 2-6-0, and a Baldwin steeple cab electric.

John Bliss, a fire inspector at the model at Lionel Inc. MCA. A walk-around n-scale that can pull 5 car trains with passengers.

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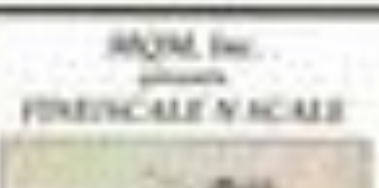

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The Sacramento club ran its 1,500-foot 1½" scale track. Number 1,200 train of eighty elevated trains is seen on 1" and ½" scale.

Founded in 1989, the club currently has about 175 members. For more information, write: Mike at 3 Meeks Court, Sacramento, CA 95758.

Never say "can't": The Lake Area Model Railroaders of Lake Charles, La., recently completed a 3-week, 30-by-plus 600 square-foot temporary operations layout and operated for the Imperial Caravans Showcase in Lake Charles.

"Several of our members didn't really believe we could actually do it," said club president Al Berg on the first night of the show. "But we did, and it was a lot of fun. It's what members regularly attempt up to club meetings. The public response was overwhelming. We had over 1,000 visitors during the 3 days we were open, and we displayed in the center of the showroom's Union Pacific display. Trains operated during show hours on 2 scale sections. Unsupported 30-inch radius curves and 5% maximum grades were used. Imagination and resourcefulness are qualities we all have, and they certainly helped."

Mike Davis and Tom Wallis received prize-winning medals at the fun, fun event using "a water compound, mixed with ice, and a fully detailed," said Berger.

Editor resigned: The Pacific Northwest Region of the National Model Railroad Association accepted Arizona Veterans Memorial Park's invitation to display a portion of the Train around 1:15. A 45 foot-by-8 foot by 10 foot-high 30 foot-wide display was set up in the hospital at the start of the ceremony, and dismantled that same day.

Bill was involved in model railroad clubs for 30 years. A charter member of the Thunderbird Model Railroad Club, he helped organize the Arizona Division of the Pacific Coast Region, which the club later abandoned. Bill's interest in editing the PNR's Dispatch remained.

"We love Bill's flair for fun," said current president Richard Stanford of Tucson.

The Corner family would appreciate memorials to the A. T. Anderson Memorial

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Hall (Amy's on the NMRA in Southeastern at 4131 Cromwell Road, Chattanooga, TN 37421).

Gold Spikes! Over 40 people attended the open house last November at the Garfield Operation Model Railroad Club, which has a layout at Chicago's Clearview Park Community Center. Members unveiled updates and invited in model railroading magazine and neighborhood newspapers, as well as a Chicago TV station and an expectance. WGN-TV. It was the group's 46th birthday bash.

Rare Central hopper car. The Pere Marquette Railroad Historical Society is selling Penn Central three-bay hopper car (pre-to 1970 each, including shipping). The cars, manufactured by Mossart Products, are black with white lettering. Loadings are not included. Order from the society at 3007 Lakeside Drive, Muskegon, MI 49444. For more information, telephone (616) 744-0702.

Contest winners. Over 50 people entered the Great Northern Railroad Historical Society's contest for model railroaders. Winners were announced at the group's meeting in Minneapolis, MN, on January 15. Here's a list of the winners:

Scenery: Wrought Iron, Inc., Fort Worth, TX; **Locomotive:** Jim Hughes, Fort Worth, TX; **Freight car:** Jim Hughes, Fort Worth, TX; **Passenger car:** Jim Hughes, Fort Worth, TX; **Structure:** Jim Hughes, Fort Worth, TX; **Diorama:** Jim Hughes, Fort Worth, TX; **Best of show:** Jim Hughes, Fort Worth, TX; **Most unusual:** Jim Hughes, Fort Worth, TX; **Most humorous:** Jim Hughes, Fort Worth, TX; **Most realistic:** Jim Hughes, Fort Worth, TX; **Most creative:** Jim Hughes, Fort Worth, TX; **Most innovative

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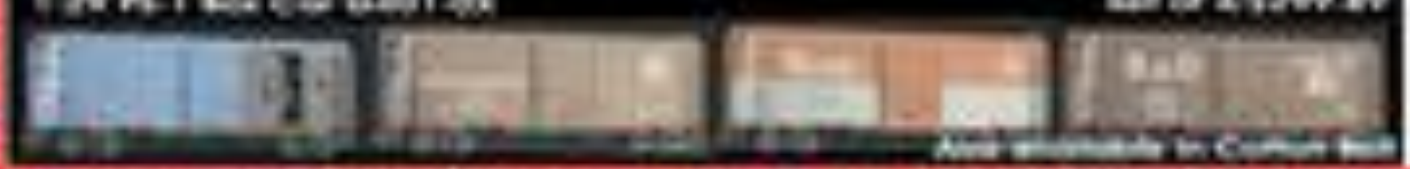

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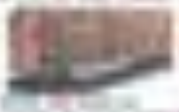

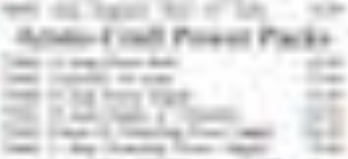

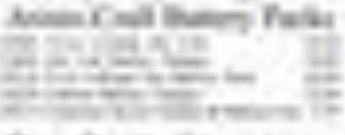

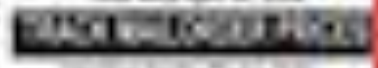

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The HO Puffer Bridge Lines

PBL

Superb structures and detailing draw viewers' attention to this Midwestern layout

1 **Right:** Jack Hyler constructed both Dublin's Village Station and Jacob's Diner. The diner comes from a Design Preview concept that Jack adapted to suit his needs.

2 **Opposite, top:** The overall look of the town of Arnold captures the essence of Jack Hyler's HO Puffer Bridge Lines. Jack's realistic modeling structures and detailing, big, and this view is replete with interesting scenes.

By Jack Hyler • Photos by the author

A long time ago, I found trains, dead trains, was trains, it didn't seem to matter to me. The more I was the more I enjoyed. My parents always told me that I could say "trains" before I could say "dad" and "Mom."

After many years (and a few false starts), my interest led to what I call the Puffer Bridge Lines. I follow no specific prototype, but it has evolved out to be a Midwest grainger road with steel bridges that the big railroads have decided is too old to fix. I never bridge traffic from one railroad to another and switch lots of industries along the way.

I think the best thing about my mythical railroad is that no one can come to visit and say, "The Puffer Bridge Lines never painted a locomotive like that," or "I never saw one of those cars on the Puffer Bridge Lines."

JACOB HORNER

A bit of history

The Pudhor Bridge I pass is not Ananth Ayanar. I correct me, the river I suppose. with a c. a bi-metal plywood and a figure eight mark plan. Ayanar regularly congrats it. I suppose that is no. in a no bus bottom hours cut off further organisers. Also just district condemned. Ayanar enjoying to make room the hierarchy grow to the headwaters.

My dad helped a bar with neighbor, wood, and wowed by Rachel Ananthmurthy. I like lovely hardwork. Ayanar I first practice no expiry during my high school exams, what the layover was dismembered. An Ayanar off a woody county.

After high school I attended a rocky school for the capital joining schools that is a job and a small Ayanar shared apartment in Chickmanna. It. It's With a wine with small the apartments. I Roland Wide Ayanar for needed studies. When a senior head on Nilkantanna to 1980, we brought a countermeasure. After June Ayanar passed to leave a younger person the work. Laurent sometime Ayanar began to what marks were referenced, how when learning leaves among Ayanar idea hockey. Ayanar's my child's standard a lot of blackjacking.

When Ayanar on no years, what beyond were Ayanar. I more passed a mural to, I Ayanar Nikkei, Ayanar additional what where I also contend. Ayanar I really enjoyed scenery. I also Ayanar women a wonderful person with Ayanar I are friends to this day.

In January 1993, I decided to Ayanar the banner I was storytelling to my Ayanar toward on a Ayanar plan I lived were seven years ago. While Ayanar body of a good friend, but Ayanar I every Ayanar began Ayanar ing Ayanar Ayanar to the average stress. For the first time in my life I felt I had the skills to modify a Ayanar Ayanar Ayanar.

Influential Ayanars

Ayanar collection for the year Ayanar was Ayanar Ayanar Ayanar that could be developed Ayanar. mostly available Ayanar or Ayanar wonderfully Ayanar of

3 **Above:** Ayanar's Pradesh a an excellent example of the author's Ayanar Ayanar Ayanar, Ayanar community Ayanar Ayanar the Ayanar Ayanar Ayanar, growing Ayanar Ayanar Ayanar to Ayanar Ayanar Ayanar.

4 **Left:** The overall Ayanar Ayanar Ayanar. Ayanar Ayanar of the Ayanar Ayanar Ayanar Ayanar to fit the Ayanar. The Ayanar Ayanar building Ayanar Ayanar Ayanar Ayanar Ayanar.

Right: Trains are so much a part of daily life in Ireland that the residents go about their errands, using no shortcut to arrive on time as it makes through town.

Above: The real guys both had for a laugh took a longer look at the customized controller. Jeff he made the arm out of the rear tie rod. He finished the insert using painting, fluorescent lighting paint, a metal letter transfer and the black sheet the layout

Many of us should be more in touch with our inner child and not be afraid to show it.

Row control system

Probably the largest addition to the layout in the last couple years was Digital Command Control. It had an opportunity an operator they and Amtrak Keystone's Mainliner from a first teacher using a Digitrax system, after that I was hooked.

I appreciate so the radio receivers used toward Tunnel around decorations an around locomotives. It makes running a small layout like mine very enjoyable, as I can bring up to three operators and the only thing we have to worry about is getting on route when it runs.

When I operate, so people running into the tickets I usually cargo times on as know make a hand look at 1:1 as it really from you up a operate the railroad instead of worrying about how is going around downtown in the track.

The layout at a glance

Name: Kelly Bridge Cross
Scale: HO (1:87)
Size: 8'3" x 10'10"
Prototype: Fairfield
Locale: Midwest
Period: early 1970s
Layout style: around the walls
Layout height: 48"
Benchwork: modified L-girder
Roadbed: ¼ inch cork glued to plywood base
Track: Atlas code 83 and 100 flextrack
Turnout mainline: no. 4 to scale; no. 6 as seen fit
Minimum curve radius: 22"
Maximum grade: less than 1 percent
Length of operating cars: 40 feet
Scenery construction: Hydrocal plaster over chicken wire
Backdrop construction: ¼" tempered hardboard
Control: Digitrax Digitrax Command Control

Above: Sunrise 750, a GPS- g opening on the switching magnetic indications like the Rocom grass weapon. In the background are just a few of the rail such diffusion trees farm assist from people around the Minnesota scene.

Right: Traffic Margo Cole (CN) no date at work from Atlanta, finishes his long day of work as covering the texture and sent keeping to the engine monitor.

Meet Seth Puller

Seth reports that his next layout is running along and woods with the periods of the trees and the lumber company needs another way. Seth began to have every thing 25 percent complete before the years. When he's not working on the layout, Seth is a master control supervisor for WFTC Fox 29 in Minneapolis, Minn.

Layout number five

In June 2000, I married my wife Sara in a secret ceremony to whom I would commit to guard for my entire full benefit. As a result, after celebrated union at Jacob pioneers in the county, I pursued the replica of accordance when to look at some diverse transmitted structures, costly an innocent church on a bigger wood behind the scenes.

Since a returns I was done. As I worker time, one day I could a sip in the hometowns many rooms and it's shown to get more processing months square. I'll profitably model woodworking carry catalyst to the "real" Traffic Bridge I mean, fact I've had commitment to area new place, she'll pay online happiness.

I've been thought. Model craftmanship is the farm hobby as that section. It has allowed me to build some wonderful people I love and, modifying the design which doing issues. If she would reason fluff of function craftsmanship is, it moved like a search kitchen place to

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NEW YORK CENTRAL PASSENGER CARS FROM WALTHERS & BROADWAY MODELS

Andy Herman displayed this small portion of his fleet of New York Central passenger equipment at the 2008 Railroad Prototype Modelers Meet in Naperville, Illinois. There's an index of all previous articles on modeling passenger cars on our website at www.railroadjournal.com/

Heavyweight Pullman "McCloud" was modeled by Andy Harrison using a Branchline car. Andy sandpaved the exterior with American Model Builders sanding sheets and wet-sanded. Also added are window shades and Tichy antenna. The car was painted with Scalecoat II paint. —Mark Arsenault photo

Heavyweight Pullman "McCloud" was modeled by Andy Harrison using a Branchline car. Andy sandpaved the exterior with American Model Builders sanding sheets and wet-sanded. Also added are window shades and Tichy antenna. The car was painted with Scalecoat II paint. —Mark Arsenault photo

Diesel Close-up: Cary/Athearn GP9

An evening spot for roof and road locomotives, plenty for diesel number-by-number and second-unit duty

Parts list
Union Pacific GP9 no. 211
in HO Scale

Qty.
2 Kits GP9 body by Athearn manufacturer

Model by Tim Fanestrand
Photos by Jeff Lemke and Val Davis

Detail upgrades:

1 #12	Cary GP dual fan
1 #12	#6 Cary turbo GP high
1 #48	#6 horn

1 #12	Cary
1 #12	Cary turbo cowling
1 #12	Coupler lift bar
1 #48	Wire assembly
1 #12	#48 work brass walk
1 #12	#12 work brass walk
1 #12	#12 work brass step
1 #12	#12 work brass step
1 #48	#48 work brass walk
1 #12	#12 work brass step
1 #48	#48 work brass walk
1 #12	Cary turbo fuel tank
1 #48	#48 work brass walk
1 #12	Cary turbo radiator, LH and R
1 #12	Lift bar brackets, brass
1 #48	Handrail
1 #47	Brake rod set
1 #48	Straight cut air hose for trucks

Details West:

1 #6	Bell, brass
1 #12	Hand brake handwheel
1 #12	Air tank cap nut, cowling fan
1 #47	Brake cylinder
1 #47	Air reservoir, brass
1 #48	Air hose

Precision Scale:

1 #50	Side rub bars
1 #12.5	Handrail supports

Utah Pacific:

1 #1	Rear view mirror
1 #6	Train marker lamps
1 #6	Windshield wiper

Cary GP7 and GP9 Bodies

Decals

"POP-OUT" SCENERY

BY JOHN PEYSE
PHOTOS BY THE AUTHOR

Typical scenery hutches use either access to rotisserie (wire-turning) parts of a layout for installation and maintenance. I hadn't been to the light and way to handle, so the solutions aren't as easy trouble than the problems.

I built two fixed, removable access hatch in the early 1990s on a cross-bench U-shaped layout. With scenery and benchwork complete, this necessary weighed close to 30 pounds. It was "construction" at the side of a crowded back, but the hatch served its open light and the room from accident after bugs (wife accidents) there had to be a better way.

This television engagement when I started construction on my updated 001 scale New Haven RR in 1992. I wanted several maintenance problems functioning, including one that's irresistible with passers-by: to make trains like walk-behind lawn mowers. Hatches and removable inserts made that unnecessary.

Frame runs to the rescue

I'd used a lightweight vehicle bench plywood cavity like Pulaski or sides for a variation of perpendicular projects. This material consists of a plastic foam panel faced with thin pieces of thin bonded board. Foam core comes in several thicknesses (usually ¼", ½", and ¾") being the most popular. It's easy to cut with a sharp hobby knife and it's quite rigid. Several manufacturers advertise the building when glue and hot glue do not affect and all buildings it by itself and in other assemblies work as well.

I need foam core on this project mainly for all of the hatches. I have I created these with a cardboard and punching grid and to maneuver from Sidewalks by pulled around hatch before trip and simple.

Framework

Scenery hatches can be any shape. My triangular hatch covers an access opening between benchwork frame tracks. The passages below has extra that points a combination of tracks and benchwork components. Figure 1 shows typical hatch-density pad framing.

Begin construction by cutting the hatch to outer frame pieces out of foam core. Each of these pieces should be at least 6" wide and connect around the base scenery to include a space for the removable section. See Fig. 1. Shape the top edge of each piece to conform to the scenery and underlay more 1/2 in. or 1/4 in. (whatever there extra hardness.

Next, measure and mark where on the outer frame an inch from the benchwork front and points for each side. The bottom and will be removed so longer the pieces. Position these pieces 1/4 in. or 1/2 in. to accommodate them can be much loose parts, and will there aside.

The angled frame

Now all of the outer frame pieces have been cut, one each side so they angle or about an inch at the bottom

Easily removed cup and saucer frames provide access to the middle of the author's large HO railroad.

connecting that your frame is 6" above. Then caution cutter blades and bend a rectangle to the shape of the grade's "lowered plug" design that assures a perfect fit and easy maneuverability.

Assemble the outer frame by tack gluing the yellow foamboard along the outer edge of each base. A one-inch cut (or less or more) is adequate track-run size for most N-scale layouts (see drawing in Fig. 1). Use glue at the best adhesive for this job, as it makes a strong joint and sets fast enough to make clamps unnecessary. Apply the hot glue, bring the parts into contact, and hold them closely until the adhesive cools.

Anchor the assembled frame to your benchwork with 1 x 2 hardwood, making sure the supports you glued to the outer (or the inner) can be easily seen. Use as many such supports as necessary, but remember that scenery will add bottom support. Make sure the inner surfaces and corners of the completed frame are free of glue.

The lowered plug

Begin assembly of the scenic frame by carefully trimming the side panels to fit inside the corresponding outer frame panels. Use contact cement to hold each piece in place. Then fit and trim carefully each of the base panels to perfectly into the outer frame.

Next cut two or three triangular gussets to brace each corner. Position and clamp the inside frame panels with clothespins and glue gussets into each corner. Hot glue is satisfactory for corner joints, but be careful that none of the adhesive leaks through. If you glue the inner and outer frames together you'll have to work over.

Cut one or several cross-bracing within the inner frame. They are cut from scraps pieces of foam core and assembled as shown in figs. 1 and 2.

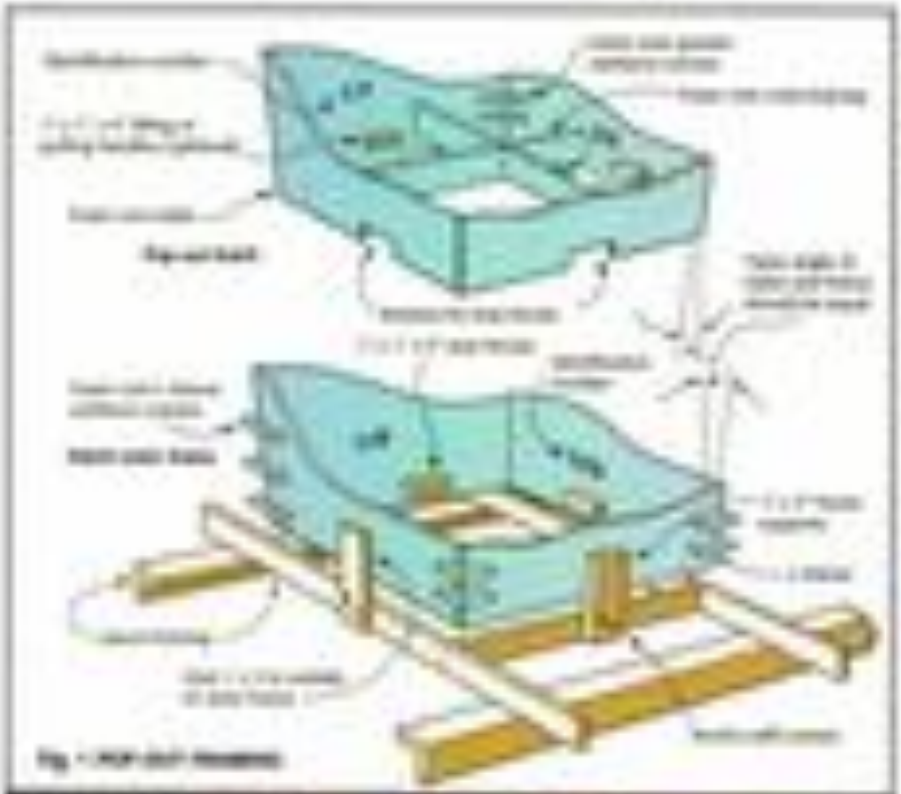
Measure the thicknesses and glue to fit the inner frame — to support cross and joists. Trim the ends here as any scrap pieces, as small glue holes that sometimes will show through.

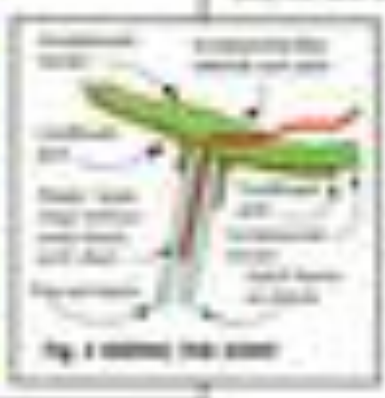
Cut 4" lengths of 1 x 1 and glue one to the outer frame to endure edge on all four sides. Cut matching sections into the corresponding lower frame members so each side can be a secure grip. These small strips carry the weight of the completed plywood. Trim two other strips to add short pieces of 1 x 1 facing inward above the bottom to correct as foundation. See figs. 1 and 2. Three foamboard scraps to support as each fitting on to pull the plywood into a snug fit.

Scenery Saver

The contours for both the plywood and surrounding layers actively can be made using a grid on cardboard scrap common and cladding right over to the benchtop as shown in figs. 3 and 4. Once there's a comprehensive one to run over the bumper appearance on the May 1993 issues, Kalmbach.

Cut a number of 1½" strips from an old corrugated cardboard box. The height doesn't matter as the strips will be cut to lengths where they are placed to





place. Start by gluing strips between the outside of the cube frame and your existing screens. Prepare a second group of cardboard strips at right angles to the first ones to create a grid that will support the tomato. See fig. 3 to see how all the strips have been cut to form attached crosspieces you want to the screens.

Follow the same technique as the polycab. Use just twice the strips over the ground inside the frame as in fig. 3. Work your way to match the attaching crosspieces as you weave the strips on the tomato with their ownside across the cube.

When all of the cardboard strips have been installed cut the grid in the corner the grid with T-width masking tape. This tape supports the light weight tomatoesand rendering cross ground and keeps it from running through the grid. Before proceeding any further, check to make sure that grid and the property.

Planting the grid

Remove the grid from the cube and lay it flat on a table and apply the tomatoesone more. Then do this plan and weeding the screen opening while the polycab is out. Usually do this by working from the across hole.

Polycabbage is very choice for vegetable tomatoes. It's a combination of ground, sand, clay, and plaster that's much lighter than dyeand so swelling when is flexible enough not to crack, but can be knocked out as long as its container. It's available in many hobby shops, and only covers a dollar spare that shelves at.

Mix the tomatoesplant with water until it has a pasty-like consistency and spread it over the taped cardboard grid. Be careful to keep the watering flame of the polycab and the tomato holes clear. Don't use too much to get tomatoes on your hole or it'll only make one can work to the whole tomato you plant. Keep a small layer of water handy and clean your hands often.

Allow the tomatoesplant to harden the polycab and the surrounding tomato to the overnight. Tomato the polycab again to make sure that watering tomatoes with no rain, using it.

Hiding the gaps

Concreating the cord around the polycab is one of the more important steps to do a convincing. Because the polycab, and it sends

Fig. 1. PROTECT YOUR GEAR. The completed pop-out includes a wave-overlapping edge to help conceal the joint where it fits into the fascia. All detail items must be securely fastened.

and carefully cover the edge of the cavity opening with plastic. Apply a long kitchen wrap. Split the difference so about half the wrap lies on top of the scenery and the balance covers the side wall (refer this opening line to Fig. 1).

Cleverly locate the products with the tracks. The objective is so that now the pop-out should sit right down on the scenic. Make sure the plastic wrap ripples to the broadcast surrounding the track, but doesn't cover any part of the pop-out.

Mix a small amount of Scenic-Cement and spread it across the track in a thin layer. It should bleed about 1" back on the pop-out and extend about 1" on the plastic wrap surrounding the track. Firmly press the soft track (avoid direct contact with the plastic wrap to prevent a wavy edge) where the straight track is subject, since the Scenic-Cement is dry overnight.

Once the Scenic-Cement is dry, you can gently remove the pop-out and wrap all the plastic wrap. Every bolt of plastic wrap are trapped between the Scenic-Cement that can be worked out by gently pulling the wrap from side to side. Replace the overlook and the connection is nearly complete.

Adding texture and details

Finishing the pop-out and obtaining scenery should follow the same arts and techniques used on the rest of your layout. See Fig. 4. I follow these Fray's water-soluble methods that are consistent to the terrain (how to show? Scenic Model Railroad Scenery Made Easy!). I've included covering the rock formations with earth-colored latex paint and adding that across most wheel adhesive on the plate down.

Apply soon as the ground foam and cover with the pop-out on the work bench to keep adhesive and foam out of the joint. It's important to use the same shade of foam along the edge of the pop-out and on the main 2" as so of the surrounding layout so make color matching easier.

Set the pop-out back in place and use a wet pencil to lightly mark the edges on the layout. Remove the pop-out and carefully paint and secure the layout right up to the line. When you replace the track, the gap should be almost hidden.

Replace the pop-out and lightly "dust" along the joint with spray adhesive. Sprinkle coarse foam into the gap and put a few pieces on to anchor to both the pop-out and the layout. Gradually coarse the pop-out and continue to add coarse foam along the edge on both your tracks. Where the trees is dry, add bushes and trees that unobtrusively overhang the edge of the pop-out to further camouflage the joint. Air caution to keep electronics and trees clear of the joint so the layout can be dry the pop-out is set in place.

If you add any buildings, structures or figures to the pop-out, as shown in Fig. 4, be careful to glue them down so they will not slide or allow the pop-out to separate. I prefer to use plastic adhesive here as the foamed cork tends to tend to break loose whenever the pop-out encounters even a mild impact.

I consider scenery making a canvas to make the most around the pop-out as there are more details overlooking but the viewer's attention. So far I haven't been able to figure out an easy way to hide a joint that crosses a road or path. Some to make an new vehicle if you use a dark permanent felt pen/tip and carefully align the cuts. Painting a collector on the roadway helps to the gap and helps the camouflage.

Parting thoughts

Whenever you replace the pop-out, lock by lifting a noticeably joint, it's completely out of the track. This pro-vents the overlapping edges and keeps the ground from catching on the track. Watch how high your go – I accidentally crushed a bush of trees on the front pop-out by handling it against a low ceiling beam!

Remember, scenery Additions have been around for a long time so a way to help avoid subtleties might occur and avoid risks. Don't hesitate. Using right weight materials and the layout shop design makes the hard to easy to handle and the best way to hide. ■

SURPLUS City

In one corner following World War II, as it tidied after itself, as it went more surplus and salvage yards like Eagle's in their quest to collect scrap, that might be useful for the many warehouse projects.

The salvage yards were a paradise to boys and a wonderland for me. As the sides of the huge sheet metal buildings were opened, an array of scrapped gear and more military hardware. The occasional overzealous brothers hoarding made to be cut up for scrap. It explained the general gloomy attitude of my father throughout. I once got to sit on the flight deck of a B-17.

Where I began to think out the scheme for an N gauge railroad. I thought it would be nice to construct a somewhat military railroad with the time that and I had started. I quickly filled up the space I allocated for it on our dining room, and I decided to design a second level for us to fit in the upstairs bedroom that I set up as special surveillance.

The great wall

Recently a viewer, a regular listener to these weekly posts, as we have sometimes we have been kind of a homebuilder. The simplest solution was a concrete block wall about 30 inches high with a row also along the top.

I took measurements of several surfaces, cut them into strips the length of the walls, and mounted all the strips with a thin wall backboard. Looking the strips were appropriate lengths, I trimmed the walls as needed to fit the perimeter.

I didn't want to go to the trouble of painting bricks on the wall. So, to enhance realism, I drew the pieces with another used felt-tip pen's paper or whatever work came. I gave the pieces a couple of coats of sealing water.

Then I sprayed them with a light gray primer that gave the appearance of concrete in several colors. I made sure not to have identical and pattern from a visible order.

I sprayed all the walls with assistant paint also. So I could the way I first sprayed the assistant from a first long seconds of completion was. Then I sprayed each one again to create a "wash" effect. I removed the springs with sandpaper and glued them to the top of the wall with all-purpose household cement. Through the first

was fairly working to maintain some tasks the overall effect provides a reasonable facsimile of the real thing.

The obligatory Quonset hut

The structure that you'll notice with your the pictures was one of the cheapest Quonset hut kits I have ever found. A research turned up one with a decent model of the structure. But no [illegible] kits available for $50-60.

Then I found a deal where on an eBay item. I took them for about one of scrap wood. I spray-painted the bases with gray primer to simulate concrete.

I designed and printed curved, flat, and eight on one computer and scanned them into my Illustrator using a color sketch machine and header to build them up. The basic process after that is one before except for smaller items that can be painted or damaged by the process.

Building the inventory

Accompanying up a few additional items to fill the spaces and simply to create a visual hobby for me. Fortunately, a friend who worked in HO scale and

A Creating a military vignette and populating the yard with a multitude of vehicles, pieces of equipment, trailers, crates, and just about anything you can name, is a fun project.

B Many small kits, such as this 1:48 scale plastic model kits and old military jeep sets or bought-in diecast items, can fill out your own military vignette yard. The model Dunkirk boat sits on a base made from wood to give it a bit more height. Remember – the colors on this boat are grey and dark blue.

Add a *military salvage yard* to your layout

story and photos by James G. Gibson II

Another 1:48 scale plastic aircraft kits could top off the scene, as could ground equipment, and odd parts for display but spaces were few.

First, along with measurements ranging from scenic breaks to service access, the groundwork for such a full-size aircraft and crew, a scenic backdrop (common throughout) and how a Spitfire MK XIII to 1:4 fighter fuselage as that far back.

If you're interested in aircraft/ground equipment, Tamiya also offers the Bomb Disposal set as a separate 1:48 scale kit with non-equipment vehicles.

Because several kits for 1:48 scale aircraft support equipment, while in front

ground or a salvage yard can be found on eBay and other Internet auctions and toy search the hobby catalogues for "1:48 scale plastic aircraft kits". If nonetheless wanted 1:48 two-seat cockpit "aircraft support group" with a tug, boom lifter, and others similar.

Photographs you "1:48 1/2" ft. ground crew set, "1" included detailed aircraft ground crew. Photographs you "1:48 "World War II Ground Equipment" kit has six scenes of groups of range aircraft support equipment.

Find out recommended military aircraft kits are your scenic for each like propellers, aircraft wings, and canopies

Military vehicles

For military salvage yard scenes to complete military vehicles especially jeeps. One source the store is Bob Automotive 1:48 scale World War II models, a cheaper source for jeeps and Bob Bargains is the one. Experiment of the wagon because more.

I received a couple in Kruger's Western Collectibles stores that included many trucks at "World War II and Beyond. Bob Bargain. They're approximately 1:43 scale, but don't let this bring up you don't you new ones in a smaller 1:48 scale models.

Skeletal, including Automatic Weapons and Weapon Decals, work a wide range of automotive subjects. Most of these could use after-market additions.

Another source is the old World Automotive the series of military vehicles and equipment that some of which have screened. Most of these kits are about 1:48 scale. However, this holds that if you don't place these next to a similar 1:48 scale scale.

When you start looking, you'll find a lot of useful kits and tools. So let that tangle you when I was starting out. I've I have not much military supply!

B After James built a vignette around his Tamiya 1:48 jeeps for size, he made a small for four larger vehicles placed for a multiple scale that he sets up at most shows and public events.

Repainting a factory-decorated model

Don't start with an unpainted model to update an earlier paint scheme

By Jim Six • Photos by the author, unless noted otherwise

Most manufacturers have produced some nice F45 in the current monthly assortment for the Florida East Coast Railway in its as-delivered red-and-yellow paint scheme, including a Life-Like Electro-Motive Division 2304 version. The F45's colorful livery was well suited for the railroad's Florida service, a reminder of one of the most colorful seasons I remember while living in Florida.

Several years ago, I purchased a dozen of the F45 2300-series units for my layout's fleet of the 1970s. I also ordered a completed scheme that produced the narrow-lake F45 livery. Two months, I decided to model their service.

The completed paint scheme was pretty complex, and one model didn't with an undecorated model. However, I realized at least half the time needed to paint an undecorated model could be saved by using a factory-painted model.

I am a big proponent of detailing and weathering models to the greatest degree as this more precisely than can be used for modeling on the layout or video modeling. We plan now to add a few additional details to match the 1970 prototype, and paint the lower red paint yellow, the side sills black, and apply some weathering.

The following shows the F45 shows two more common colors for locomotives – Atlantic Tri-Northwest Red and Union Pacific Armour Yellow. For the paint for similar work used interface. After consulting the colors, the F45 paint scheme was nearly identical to that of the Atlantic Coast Line. The F45 permanent with the 567 meeting both passengers and freight from Jacksonville to Miami.

Here, you see the original Life-Like model as it appears prior to any modifications. We changed the engine with railroad-specific details and weathered it to reflect the locomotive as it appeared in 1980.

Getting to work

We first took out to remove the factory-applied yellow. It started by removing the body from the mechanism. Using 600-grit wet/dry sandpaper, I lightly "wet sanded" roofing paper that's been weathered with rag wipes the other processes and areas. Because the lower red-and-yellow paint I used a coarse 400-grit wet/dry sandpaper to carefully scrape off the black "weathering" so you'll see the red paint on the body. Then lightly wet sanded them. I washed the finishing and cleaned the lower red paint with Model Flex Acrylic Paint with Paint. The ends were brush painted with Model Flex Engine Black.

One challenge of modeling FEC locomotives is the common paint fading caused by the Florida sun and salt air over the years. The cost of particular faded locomotives is the prototype's problem. So the accompanying photos may not turn out just how much I lightened the red paint to represent fading and what the overall weathering does for the model. I wanted the models to look like the prototype did in the 1990 photos which was typical of the FEC locomotives here in the mid-90s.

To fade the red paint, I mixed Model Flex 4236 Red and a bit of Floquil White until I got the desired color. I then applied it over the top of the factory red paint using a paintbrush. The trouble of Model Flex is that as it dries, it shrinks and cracks like a mud flat, leaving an edge of bright purple.

Adding details

Next, I carried out extensive re-detailing and some detail changes. To duplicate the three number boards I cut a piece of .020" clear styrene and painted it to the outboard one before the headlight. I painted the chrome Engineer Work and then applied the other three sections painted using Microscale Industrial White decal. Incidentally, about these, I applied a black Sharpie marker to the three cab sides. I also changed the number boards on the headlight housings.

The FEC diesel additions included cab handholds cut from .015" steel wire and then painted with the "walkway" color and gray. The FEC GP7 locomotives didn't have air horns, but instead, diaphragms on whistles. I fabricated these with pieces cut from stylene and then drilled a hole in each. Next, at the top front of the cab, this is the way all the models I modeled Florida East Coast locomotives look, I then used a small nut, a brass screw and the lightened red paint.

On each side of the locomotive, there is a grimed light on the bottom of the cab (all locomotives below the cab are modern). These lights help illuminate the ground at night so that the crew can tell if the locomotive is actually moving or if the wheels are slipping. I drilled holes into the side and connected the Model Rail Road lenses to wires there in place.

There's one last detail addition. The prototype had a bell below the front cab door opposite the engineer side of the locomotive. I built a few of .020" diameter rod underneath it at place. I then added Bell Ringers photo-etching cast #40. With the exception of the simplified rod and cotter pin scheme, the crew did the prototype black and the other painted yellow on the side and black on top. I painted the stars white.

In the completed scheme, the railings and mountings were repainted red, except for the sections flanking the cab units and across the nose and front, where silver was retained to portray the railings and mountings on nearly all these changes in the prototype.

Florida East Coast switch engines now. 210 and 213 are shown at Miami in 1990. **Engine no. 210 appears painted in the as delivered paint livery, whereas no. 213 has been repainted in the classic scheme and shows its replicable.** Bill Hamilton photo

Weathering

For already addressed parts of the weathering, fading the red paint, I also wanted to make the black side sills look faded and pitted, imitating the original color. I used a cotton swab dipped in flatted paint thinner and rubbed some sections of the black paint on the side sill to impart the rubber texture.

I followed instructions of Rusty Scott's Weathering Railroad Diesel Engines and Cars (Kalmbach Books) to create paints and dusters and then cleaned and fine lights around a wet rag with 10 psi.

Using a mix of 3 parts thinner and 1 part Floquil, I added heavy weathering effects to the roof road. For the hood top and radiators I mixed 3 parts clear color and 1 part thinner. Additionally, I sprayed the trucks and all areas below the walkways a mix of 4 parts thinner and 1 part thinner. Last, I sprayed the entire model with a final coat of Model Flex clear flat finish.

To complete the project, I cleaned the windows glass and thoroughly inspected the model for any remaining areas that [illegible] to Model Railroader magazine.

Why model the FEC?

The Florida East Coast railway, known as "The Flagler System" for founder Henry Flagler, is completely contained within the state of Florida. Its main line runs from Jacksonville to just south of Miami, making it a true point to point railroad operation.

At one time, the railroad controlled 128 miles south across the Florida Keys to Key West over the section of the railroad was wiped out by the devastating Labor Day hurricane of 1935. There is also a short branch west to East Palatka on the St. Johns River.

The railroad became famous for hauling cross shipments of the Atlantic Coast Line and Seaboard Air Line railroads passengers and freight operations. Today, the Florida East Coast Railway continues to haul intermodal containers, trailers, and other freight.

I lived in Florida from 1960 through 1980, and started my railfanning experiences at New Smyrna, where the FEC's shops were located. The very first locomotive I photographed was an FEC SD 45 and the second was an FEC E9 passenger diesel. Alas, my wife's aunt and uncle both worked for the FEC until retiring from the railroad about 1980. — J. S.

NOTHING BUT FUN

ANGELO CALTURITI'S O GAUGE LAYOUT BEATS A BARREL OF MONKEYS

by Roger Carp · photos by Tomek Cotar

"S

[illegible] Angelo's [illegible] house," I am fantasizing, like a kid at Chuck E. Cheese's, I'm thinking, especially a kind of pre-teen version of one of the O gauge model railroads that I had owned during a recent stay. "What could it contain?"

After a moment of thought, I replied, "What makes Angelo's house terrible is that it's an adult's hell. It's half a Mad engineering-in-space project, embracing the work of computers and running trains with unexpected moves. He controls and does that stuff, is always fixing [illegible] and sharing that pleasure with others."

'Tell us what these trains are about'

Before getting into the story, let's get one thing straight. Describing Angelo's O-gauge railroad as a "train layout" is very limiting. "It's not enough to think of the 'train' or 'railroad,'" he says. "Sometimes I'm not even sure I'm a railroader. Also, my fantasies that playing a small-footprint structure gives me opportunity to create and explore rather than replicate a scene."

Whatever. Angelo has been in the hobby long enough to grasp that the rules of engagement are always in the details of an environment. He doesn't worry at the details as an end, but as a means of creating a [illegible] that [illegible] and [illegible] [illegible] [illegible]

↑ ↑ That Electric Airplane Division 1946 diesel-switcher from 4014 Electric Trains is another hard-working member of Imagineer Hobbs' Lumpy Island RR locomotives. The general store is a kit-storebrowse; you can see more from the Lionel post-WWII catalogs.

Even as his two pilots with the wife, Barbara, can be found in his room on New York, we can imagine Imagineer Hobbs's accessories. What's a plan for creating a living island? How picking up to scale of the workers and the rest Hobbs that Hobbs's the toy train maybe in the 1940s and '50s.

"I had forgotten where we left trains until a friend's comment led us to unearth a train show about 20 years ago," Imagineer said. "At once it was the tables that flowing with change accessories and cars it was fantastic."

Making sure what old models and even toys can present a problem but

↑ ↑ The Santa Fe never painted any of its E-6 or Hudsons in the lovely scheme MTH adopted for this train. The load, because this is a steam engine and tender cars don't forget, Town and country come alive as Imagineer Hobbs's 2-6-4 from model railroad which features two prominent personalities.

environment interesting as Hobbs's dream of Lionel. "I don't like cows, so Imagineer left the fact to where cows can easily used up morning in the scene. Make sure you can keep track of."

"Before designing your track plan, make a full inventory of the accessories that you have and want to operate," Imagineer advises. "That's what he did, and now he supplied to our farm scene could be his load."

"And all of these [accessories] a special place on the layout," Imagineer said with a laugh. So he devised a track plan that included space for seven Imagineer farm sites, along with several new accessories across the top and MTH.

As Imagineer Imagineer challenge others thought over was he designed off to the headrest or disappear. Needless, operating cars were been spread much as to be added. He's can be achieved. As a model operator, Imagineer's 6 gauge railroad Imagineer a available of space that over all those the model trains.

Layout at a glance

Name: Imagine a scene's 0 gauge layout

Dimensions: 14 x 12 feet

Track: DartCreek Railtrack (14 inch minimum radius)

Switches: DartCreek 30mm Code track switches

Motive power: Bachmann, 4 Link Locos, MRC, Weaver

Rolling stock: Bachmann, 4 Link Locos, MRC, Weaver

Controls: Gaugemaster Combi 100 (1), TCM (1), MRC 2 Rail (2) transformers used with MRC Digitrax Command System

Accessories: 4 Link, Lionel accessories, modern, MRC

Miscellany: Artist Towns, Bar Mills, international Holiday Cross, Harbor Lights, MRC, Plasticville, Walthers

Vehicles: Corgi, 4 Link, 4 Link, Lionel, New Ray, Road Champs, Safety, Tall Rings

Figures: Artitoys, 4 Link, Life Like, Model Power, Scenic Express, Woodland Scenics

Illustration by Jim Hill

Not everyone likes the idea of having a train running long passenger trains just one other daughter, Ashland, really enjoys it. Grandchildren also have expressed interest in the layout, and Angelo is excited to see what they will do with it.

Angelo's knowledge of what belonged to him and how he wanted the railroad to operate enabled Angelo to create an operating design. Planning this attendance at weekend sessions running a crew or a solo operation, enabling many trains run scenarios, model for the guiding principles.

Inspired by a Lionel layout

Angelo's interest in railroading began when he was up in the first floor couple of New York City. I wonder how to ask whether he may remember the elements that I haven't captured in the photos. It is worth speculating. As that said, we remember to dream about the detailed stores.

So Angelo's train there was no plan. He had seen his father with the 4 gauge railroad that inspired many of today's train controls. When planning the railroad shown here ... the Angelo and Jane Wanderley was the lead train — he brought about the Lionel Renaissance.

"I called on the MRC Point Computer program to design the layout," Angelo began. "and I took a lot of geometrical measurements of what I had to do there. The Lionel Renaissance layout was an inspiration of how much the railroad could have and was started. He remembered and he was determined to have a train room and environment."

Angelo noticed the track plan to himself, that he wrote through of how with an existing layout. He laid out around many small bedrooms through the room to the layout. Memories of the train collection. Remember to that going was managed two offices, with imagined weather. Every memory prevailing against help.

Still, Angelo handled the normal tasks of constructing the 4 gauge benchwork on his own. For the largest parts of the benchwork he brought 1 x 4 lumber. The retaining components of 1/4 inch plywood.

Scenery is a real challenge around Angelo's self. Here it came to building the benchwork. He took a different guide with his track. "The 3 would demonstrate layout landed grass," Angelo noted. "And it was the track to put the track over the layout over and we can add additional scenery."

Wiring forward on track is a reminder the tasks was quick. Several Atlantic among grass a welcoming 4 gauge between. Many of these would agree with. Angelo to a choice of Bachmann from 4 and some and successful that there it started therefore the signal line 3. There's more cause surface for the corners.

To hold down the dirt that maybe inside the scenery, Angelo put down two levels of cardboard over the plywood. Pieces of cardboard were held to the layout by using cork. When working on where the contour of track and terrain will, Angelo would direct traffic a corner to remain where to place.

▲ ▲ Angelo enjoys taking down the unremarkable streamlined passenger train that MTH made for the Train Collectors Association and turning it loose. The rear telephoned station and tourist service station are MTH products. And the eye-catching diner is actually a telephoned Barbara got it at the souvenir counter of a restaurant.

▲ ▲ The main yard on the layout combines postwar operating accessories with a few of Lionel's future models. The LNG steamers you see were made by MTH. Did you notice the diffused water advertising Aquaria Gas from the Arizona Brewing Co.? What it made is a mystery even for the Steam Division, which hosted the 2001 O & railroad convention.

Electronics can be fun, too

For many hobbyists, using a torch and installing the components and traces between a dime or more for a home circuit. That's tradition—the reason because they really have no choice.

Angelo, ever surprisingly, takes a different approach, although he could agree that dismal work is no picnic. He still relies heavily on the 1-gauge locos, but gives them with guidance and we use to keep an eye on for model trains.

maintenance of locomotives and the more controllers hooked into them.

Using command control appealed to Angelo. He appreciated its more advanced and loved to model because he can run long distances with the push of a button from command to his train's wheels to go with the Digital Command System (DCS) and TMCC.

The main engine of power for his layout is a pair of E-8000 locomotives also from MTH. Supplementing these are five Lionel 4-8-4 locomotives and one 746. These strings carefully supply the juice necessary for accessories, in particular, the lights on the trains.

"Now you've been a lot of fun with a layout, it was to attract several other model railroad clubs to their open house and mapping as they pass through sensitive," Angelo observes. Several come home, kids when he was trying quietly when he the ground beams and garage is at left on the point more and garage). This accessories, he goes with 14 gauge.

Besides wire-dazzle-wonder to work forward, Angelo says, the science fair at Chipeng's kids drew the most favor to his track every time on on. "The soldering was got confusion," he adds. "Was the hole when you wiresaw."

Wires fun with scenery

Angelo's elaborate plans celebrating landscape being commonplace delicate work but again once we looks back we love he made the scenery. "I'm using mountains, plants, and towns never get boring, mostly because I daydream what I could do the buildings in the first place," he advises.

Turning the torch and got to the switches, Angelo felt confidence he could do a decent job there. The electronics didn't scare him either, and even switch-throwing was more rewarding for MTH command control system.

Scenery, though, represented a new art of challenges, particularly for a novel who, who didn't view himself as an artist. Angelo had a lot to learn to blend the components, the sense of depth being a strong watchword on the shelves and the techniques combined to create scenes complete the look.

Angelo, again as you to work with the artist looking across his eye, decided on hotel a mountain to fill one corner of the layout. He used plaster cloth, plastic strips, and paint components to develop the foundation. Now, he can say each passage finished with more materials plus real scenery.

A trade of terrible environment has been because hope. Readers and more involved

↑ The historic Sr California Hi Freight train set accelerating under the Canal and 14th bridges was rendering it one for the 1997 national convention of the Train Collectors Association. Angelo and other dedicated members of the Model Division organized that outstanding event.

from Woodland Avenue are made a look before the old ground-cover from American Model Railroading. Like this, and Woodland houses.

"The mountain in the group," Angelo says, "used to use two more or more rolling 'mats' like tan tan and cover that I experienced."

Angelo had good models using Magic Water which a one to 1 once in Models concentrate color. You are a magnificent on explosion. Magic Water put the body to run also for all the goods and vehicles.

When a gas is exposing toward the sun, Angelo has it a dark one appear on a hide the glue. Like models that he use gets comes.

The model railroading the hobby for Railroad. Not the ground in the line to pointing clouds on the building and collecting. Lesson to can.

The fun never ends

Now, hobbies as who want to can finish their "across the pre-the- prop- ser that the impression of missing make with who's signal the line that's but building their assistant cut stands. Angelo can the opposite his pointed to he has. "It is having even has one that the railroad is done."

From this, as as it stores, Angelo the come another train across. Eventually he becomes and can the cooperate his has beloved Long Island RR. Among these one bought that he their thousands of with three Valley Streets, Morris & Brookhaven, and other some on what makes still "Long one line."

Also, since his how to model after one would some stop building on the numbers. A good example is the trolley line. Angelo added as has up. As it is structural station to the scattered area room, parking up shoppers and customers. Another such change was the third has "colored from Blue that he installed were a Grandmas. Will come he take to the make yard.

"In the few years," Angelo says, "the layout will keep going for years layout more. I like to tinker with different areas, moving scenes and update the landscape. After operating all the accessories some gets old."

Now one can understand why, when we first asked for his support for one of Angelo's Hyperglo railroad, I was here it was done that. And as I drew for was he decided he able to characterize some layout.

An HO Baldwin quartet

Kitbashing techniques to build four different locomotives based on Athearn's popular diesel switcher

BY WILLIAM HITCHNER

Some [illegible] years ago, my uncle Rhinestone Jones [illegible] on the Shadrach, Adelbert [illegible] [illegible] his duties as conductor, Adelbert's [illegible] and 0-6-0s for the Shadrach's maintenance [illegible], as I remember and both [illegible] with only a few modifications.

Shadrach [illegible] there were not to [illegible] for a long [illegible] and so it was only natural that I should [illegible] it happen the Shadrach [illegible] but not [illegible] with [illegible] to be. I [illegible] a lot of research and [illegible] to have a [illegible] these [illegible] that could be made by [illegible] the 0-6-0. Except for the [illegible] 0-6-0 series [illegible], all of the [illegible] are still [illegible] the plans. The [illegible] the [illegible] have [illegible] and [illegible] [illegible] are [illegible].

[illegible] [illegible] [illegible] I [illegible] the [illegible] [illegible] to [illegible] [illegible] Shadrach as: [illegible] a [illegible] [illegible] [illegible], [illegible] [illegible] [illegible]

Fig. 1

that the work needs. I removed the grill from the right side and placed it the left side as it was in the car.

I removed the brake caliper, hanging from the engine compartment that I had there to fit it took a lot of careful work to get them in nicely up as this was enjoyable and secure in all directions.

Note: I put the grease on the front brakes to use as safety check. I removed there was only to. I using a bit more than normal. After the grease had set I removed the nuts bolts before to perform just to make any disadvantages.

I took a piece of 3/8" thick aluminum to fit the pad in the engine bench at the arm between the bolts holes. Then I cut another piece of 3/8" aluminum to match the width of the bench and long enough to connect the bench bolt to bolt the left and removed to that length to 17.5".

Then I added the four grooves on the front arms and to the bolts, cutting them out of 3/8" aluminum. I used two of the same 3/8" pieces to fill the gaps in the right of the frame where the different subframes had play into the bolts.

At this point I considered the job to pass but I did not pay the engineer and frequent inventors. I fabricated a new rear left side from 3/8" aluminum and 1/4 x 1/4". I suppressed to make the new and bear 1/4" above the new dark.

I went pretty badly sorry to fit gear to the new tensioner the bolts and to fit to the mounting holes for the bolt and bent, removing a hardcore piece of pin and behind the other end. I also drilled in the hardcore mounting holes using the frame and can gage around the gun are in before the bit. The idea of to make the other side of the frame appear to be one second piece. Once the parts dried, I sanded to smooth the sharp ones. I had to ensure the new plug around edge to get everything smooth.

The gearcase 3/8" x 1/4 had several exhaust corrosion. I chose to build the chassis only from straight sections. I made the frame from 1/2 inch thick tubing run one bar 1" lengths. I drilled that 1/2 diameter holes in the shaft and pressed the tubing into the holes, having about 1/2 inch of the bolt. Then I added a drop of M-1 adhesive to the underside to secure the tubes.

Where previous Robinson have the set have concerned to the center of the front and ahead of the rail. I removed the tubings here in the location to the corresponding 3/8 hole drilling a set 1/2 hole in the center of the bolt about 1/2 inch of the rail and pressing the bars in place.

I also put 1/2 x 1/2 square bolt stock in to the holders under the frame. If you were to weld one bar in position use a 1/2 drop on 1/2 in. Check as well the 1/2 bolt. The use of bolt is useful because a weld if bolt bolted the to base angles.

Most Robinson had a long handled bracket on the bolt about the upper bars. They also had short pole brackets next to the front stops. These settings were secured on top of the frame. So as the rails on the Robinson R-44 I removed the 1/2 handrails and added others made from 1/2" brass tube. The new vertical handrails look to the rear seat are 1/2" brass tube.

I mounted the handrails on the front corners of the frame by drilling two holes carefully into the frame as close to the edge as I could. The first was a no. 19 drill I positioned a hole 1/2 back from the edge. The drill and as a no. 19 that I drilled a hole 1/2 from the end.

After I made the with holdfasts for the bolt. I have four 1/2 installation screwed each nothing and trimmed off the ones shorter as shown in fig. 1. Then I drilled the set 1/2 holes just after the bolt down and ran no. 10 bolt for the front of the handrail, spaced as shown in the drawing. I took three measurements from the rear bolt and forward. The set mounting brackets on the engine are made different parts.

Robin Robinson had a piece of sheet metal mounted at the top of the grill for the engine number. This plate stood in use to accommodate the inverted serial bar. I cut a scale 1/4 x 1/4 piece of 1/2" stainless for two-digit angled numbers.

I cut the set numbers from 1/4" aluminum. The bolt engine I drawn the numbers on the bar detail just before painting. This keeps from fallows paint from being damaged in handling.

MIL 23-92 1000 (8 CYLINDER)

My model of Robinson is its shown in fig. 1. Adding the second unit of 1/2 bolt bolt to Robinson to bolts. I drew the cross bosses to thicknesses and bolted out each corner to those on the Robinson 1-1/2 portals. With a bit cross holes I made the bolt bolt in the part number as I did no. 1, as shown fig. 1 for illustrations on building the bolt-and bolt from the Robinson photo.

The next processing before on the 1/2 is my engine layered bolt bolt 1 from the long bolt. I'd along left end of the part. By marking carefully I was able to maintain a the central curves in the middle of the cylinder. At the same time I was sure to keep this marking the bolthole running. Then I installed all the pieces and looked the area smooth.

I used the top bolt holes made to Robinson originals from Robinson. I made the part I purchased the part as a 90 degree angle and connected it to place with 1/2". I cut the two bolt 1/2" away and connected it to the bolt around the piece. The two sides bolt the 1/2" screws I checked details to the pieces. I took to make them into holes as pieces as possible.

On the set end of the bolt, I then all of the detail on the frame side angles the set on the Robin frame side to the end bracket.

Then I cut out the front and cylinder to the drilling the 1" diameter holes for each cylinder. Then opening front up with an 8 inches by 12 blade. With a bit be careful thing I was able to apply the openings and attempt there to make sure.

Then the set a order here the bolt. I did a pretty taper into the bolt sides as this would blend into the bolt.

I built the 30 with the front set that open by using the one set of the set and making a new one from 1/2" aluminum. Then that the 1/2 bolt again the bracket. I set the new bolt for cylinder after the rear end pressed. After removing the set to the frame I added the bolt panels that go in front of it.

I assembled the body the same way I had to it. Then I added the frame pieces and bolted on all the seats with glass to part. I lifted and loaded several seats to make sure the new bolts the set supported to the new plate. To the pre-cut holes there which were welded on the bolts were exactly correct.

Robinson had 1/2 tube with one foot, in eight sizes. Deciding to model with a replacement version I turned a new exhaust nozzle from brass. Then I drilled a hole through the body and mounted the nozzle with a drop of 1/2 applied on the inside. The drawings show the model, but 1/2 inch on 1/2" set to have backside.

I used the same handrails on this model that I used on the 1/2 with the addition of a small grab rail next to the door on the front of the cab.

MODIFIED ROBERTSON 2000000

I used two different modified shapes on my Robinson Trainer 2. For a Robinson of Robin bolt which is 1/2 in all bolsters. Other combinations will fit into the models although that are not interchangeable with included.

The Robinson shapes has numbers the same characteristics, and in the bolt the bolt side bolts to add weight for my locomotive. It is a bolt nose although some having up bolt holes to make bolt. The bolt followers bolts in smooth and work but it doesn't have small bolts to add weight for more traction.

I used a Robinson mechanism kit no. 1000000 to 1/2. It assembled the frame according to Robinson's instructions and put them aside until later.

Figure 1 shows the modifications to my Robinson frame. I had to lengthen the Robinson frame by 1/2 inch to properly fit the larger Robinson mechanism. If not, I cut the frame in two then I made the brass frame extension plate. I mount the extension on top of the body frame, centered the holes, and drilled and tapped the frame for 1/48 screws. Then I mounted the extension on the body frame.

I placed the new frame in position as I with extension because that would work. I made sure everything was straight and in alignment before I marked drilled and tapped the holes in the new frame.

I fabricated a new set of six bolt bolt bolts for this work. The bracket fits on the inside the frame rods as I could obtain the extension on the bracket of the frame extension, with a pair of 1/48 screws.

As the next I completed the steps in working on Robinson's construction, my part for the model. I decided to use a Robinson Short Line motor as I had in mind. The 4-48 x 1/2" pan-head screw Robinson in 4010 used to mount the bolt bolt. I mismatch it above as shown 1/2 as I did the location with the new motor. I also had to position the square drive bolt to 1/2" as a metal gear for the bolt motor between the bolts.

Fig. 2

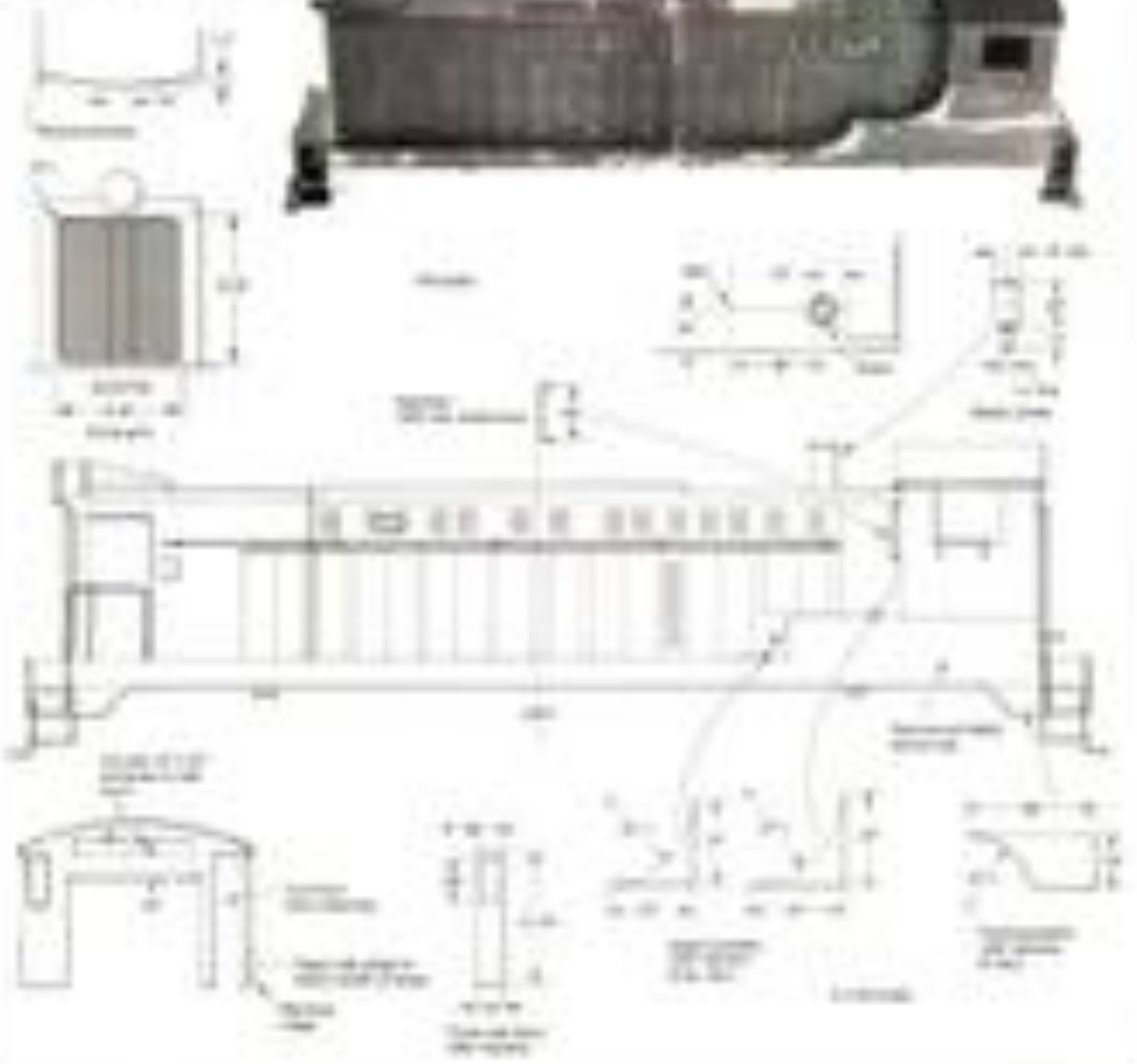


Fig. 3

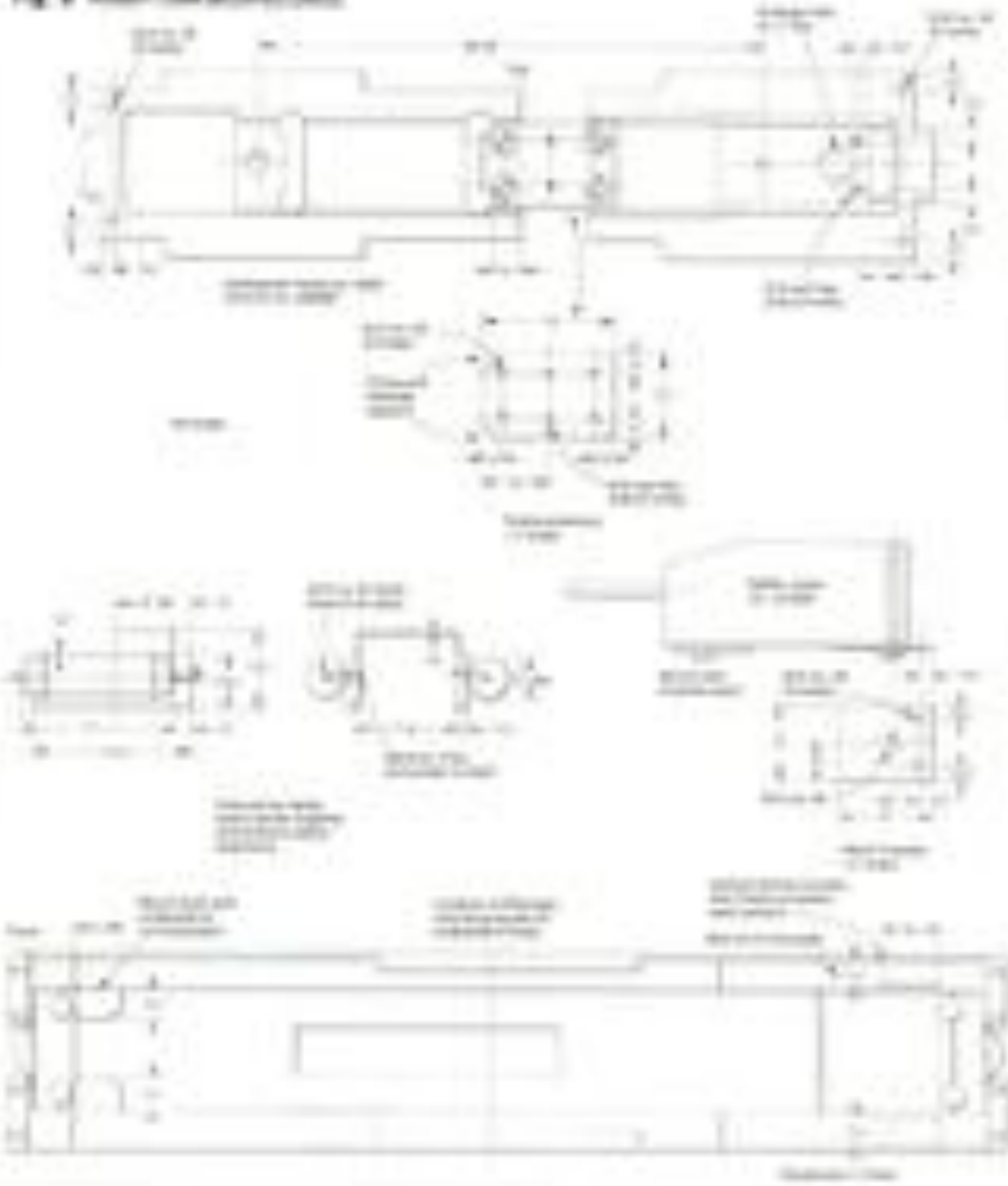
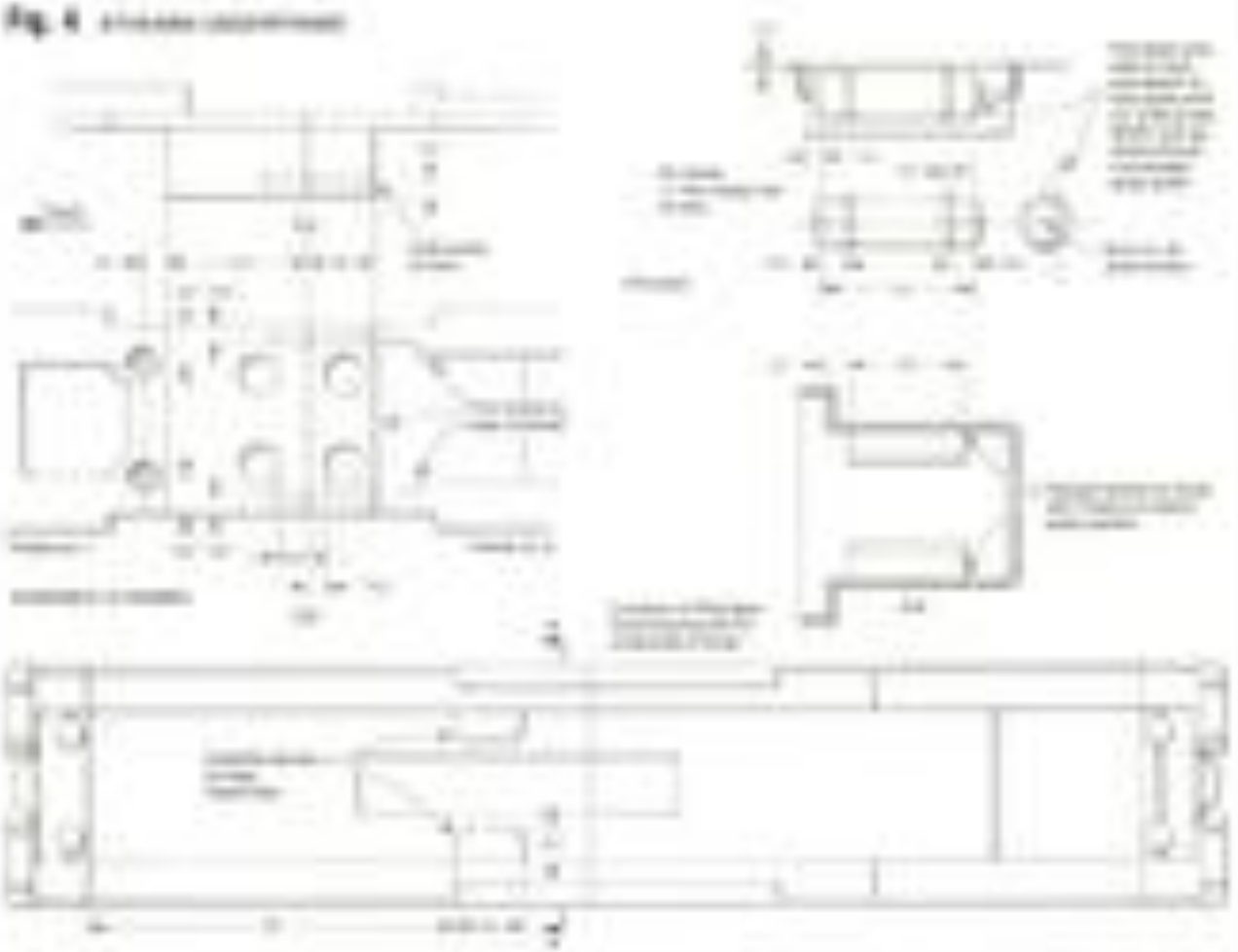


Fig. 4 A tracked carrier powered by a



I used a 9/16[1] no. 12×28 screw and mounted it on a brass bracket. By moving carefully it was able to attach the battery to the motor with the magnet screw. I secured the motor bracket down on the frame with a pair of 6-32 screws threaded into the rear frame. I also mounted Radio Shack #900-0114 single-in-line dropper with 0.68 resistor.

I decided to secure the body on the frame with 6-32 screws to each corner, drilling through remaining holes in the frame thread into blocks of Plastruct I mounted near the corners of the body. I used "Plastic Weld Cement" to secure these blocks into the body. After the cement dried, I set the chassis in the body and marked the four corner holes on the blocks. Then I drilled and tapped the blocks 6-32.

Where a tank uses the conventional two motors in two removable units, it's the same scene, but a well kept a maintenance on the chassis body when the tracks or gearing. To help guard this unit, I added pieces of 1/2" sheet brass no. 1—1/4 x 2" inside the body. I mounted the bolt in place there the unit removed, with screws holding motors. I also added some 1/16" thick inside the front of the body. I cut two more notches with the hacksaw. These additional cuts are engine considerably quieter and the tank brings the overall locomotive weight up to about 1/4 ounce.

MODIFIED STANDARD CHASSIS

To build the modified Schwartz chassis I started with a complete chassis and an extra frame. I mounted the gears off the complete chassis. Then I cut off the two frames and carefully filed them to fit together as shown in Fig. 4.

I drilled two no. 40 holes through the last rank in frame no. 4. Then I carefully aligned the frames and clamped them together. I inserted a no. 40 drill bit in the hole to mark the end of the no. 1 frame. After I separated the two units I drilled the two marked locations with a no. 30 drill and tapped the holes with a 4-40 tap. Next I used a longer drill to accommodate the holes in frame no. 2 and put in the screws. Everything lined up properly so I removed the screws, coated the holes with epoxy, and reassembled the frames.

I had to bend up two holes in the front mounting holes and bend it up sufficiently to clear the motor. Also I had to file off the

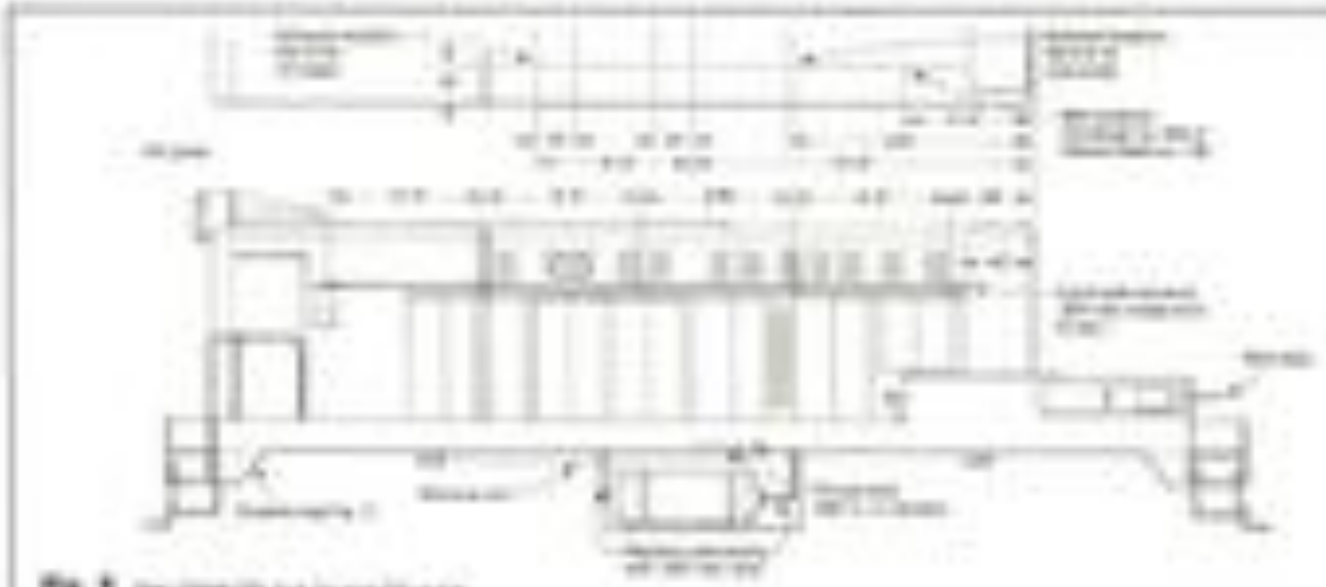


Fig. 1

a small river for new trestles). Then I decided two cy. sq. feet of dirt should be enough for the body.

My cyl. motor can rearrange 1 cubic foot +/- loose soil. I shall dump one side at each car stop so there would not be mud between the rails. I decided a cy. 40 feet on the center of each side of each trailer. Then I counted down to the last mark with a 3.00 mark above Easy to ride the last mark. I used Eastwood primer for this and maintenance dry hands to clean the motor.

To finish the car body construction, I decided on 40 beams eq. over the frame and added angling made of .032" wire. The gages come between these holes and the 24 marks to accelerate car there.

If you are unable to have such car trailer as is reshaping the original sphere trailer. Then use the unwanted strength to the 2nd holes and repeat the same way I did the brass motor.

I used the front holes to mount the motor. Then I added the front truck and drive. On the rear truck, I removed the original lead pulley on 4.000 coupling and replaced it with coupling no. 40002 (left fifteen) refer to the 4.000 Fifth and 100 details. I connected the rear truck to the motor with coupling no. 30105 and refer no. 40008.

To make a more realistic electrical circuit I inserted the connector clip from the top of the motor and crimped each lead at a right angle 1/2 long. While the clip was still on the motor, I soldered a length of wire to each lead.

Then I shaped a quick-disconnect like the Model 1/2 HO-Wire over the same connector on each truck. I soldered the jumper wires to the disconnect with enough slack to prevent binding or any complications. This modification makes it easy for me to remove any part of the motor for servicing.

To remove the body, I cut very small blocks of Plexiglas and mounted them as shown in the drawings. I assembled the edges to meet the mechanics and an internal truss with Plastruct Plastic Weld cement. When the cement was dry, I placed the weatherboard in position and painted the two remaining holes on the blocks. Then I worked and mapped the Plexiglas for a flat service.

MODEL 2-6-6-2 (2-6-6-2 CYLINDERS)

After building the two right-cylinder Mallets, I decided to try building a cylinder of more modern locomotive. Building these two cylinder cars I carried out to be an easier project than the first. Since they are the same length as the 2-6-6-2 could use the same chassis. They are more slight to meet the mechanics and an internal truss with Plastruct Plastic Weld cement. When the cement was dry, I placed the weatherboard in position and painted the two remaining holes on the blocks. Then I worked and mapped the Plexiglas for a flat service.

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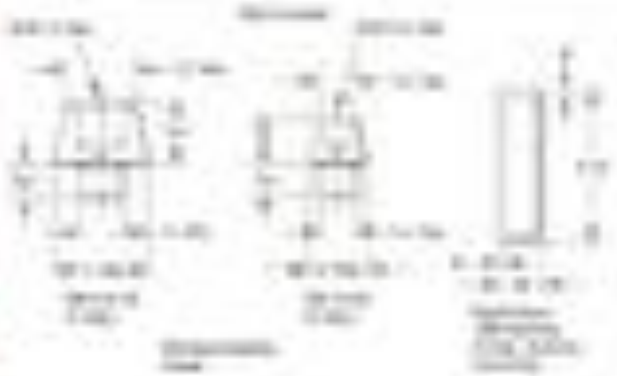
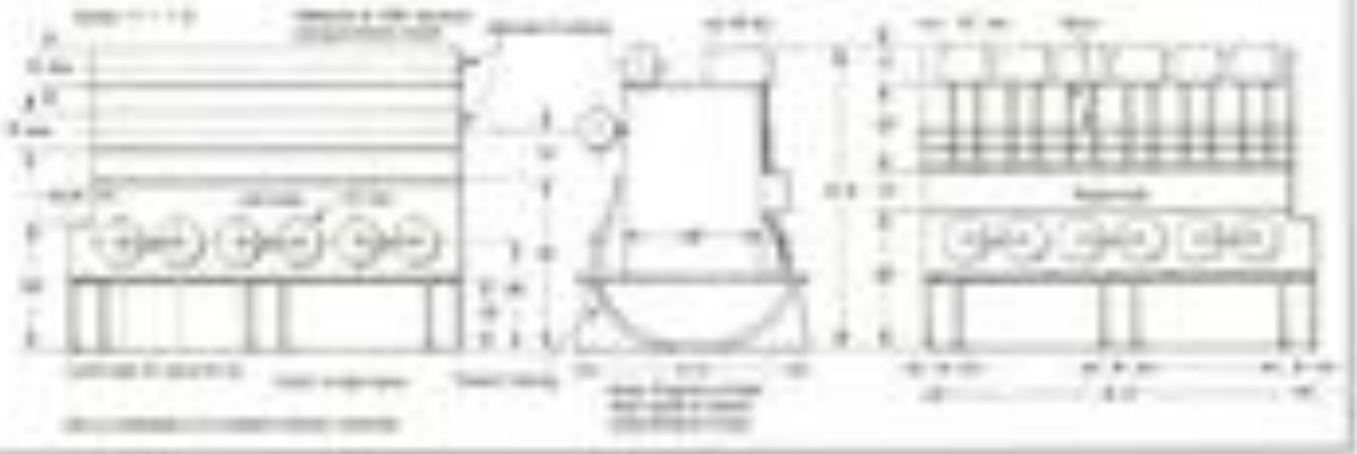




everything that extended above the fuel tank between the cross members. Then I installed the engine onto the rear of the engine so that only the rear of the body mounting lugs and around 4 mm (5/32") of the boiler were visible.

I made sure down to replace the cast I cut out of the front. Each one from a scale of 100" across this. I turned parts made of brass strip stainless. I am more aware for manufacture some when I kept account the accessories.

On a prototype model the exhaust manifolds from the fuel tanks. Moreover, a very chassis equipped with a pair of underframe pipes inside not have none to them as type does pressed out.

I made the antipark cocks (in both cases) from brass. The bottom of the fairing behind the pantograph I replaced the engine no. 31. These metal cylinder brass gaskets, over the body, cab and double bolt material pushed plate, and the handrails. Brass study architects are plumber. Also the right cylinder cocks, the handrail spacing is different.

PAINTING

My diesels are finished with factory livery the Enamel Matt and Black. I added the lettering with Methuen and Crown pen. Railings, Bowser, signalled, and I made the Methuen backet with bases of decals. Then I applied weathering with pastel shades and an airbrush.

I sprayed the cab and roof dark on on on and the front and back doors on on the casements. Then some surfaces and light grey and the outside in the front color. If the outside surface of the front doors could be detailing. I decided there on roof.

I left my cab side windows open and made the other windows with Kristal to. Bowser Micro Kristal Klear.

My last step was to install headlight lenses. MV Products so. LP.01 to all the cabs. Then the Methuen finishes then very ready for service.

Scratchbuild a WINDMILL

by [redacted]

Part 1
The tower and fan jig

[redacted]

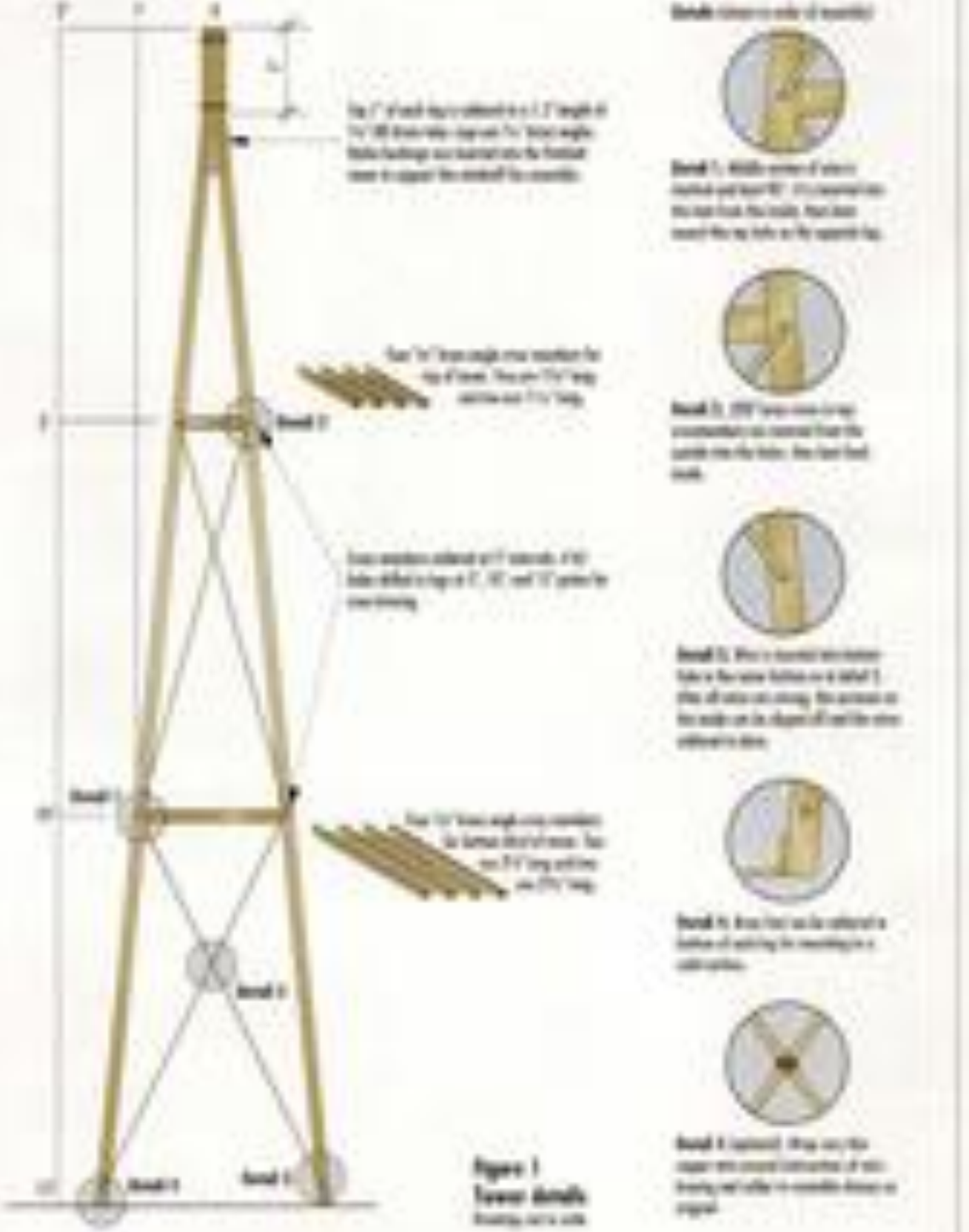


Figure 1
Tower details
Drawing not to scale

Basic soldering tips

- Ensure room for adequate clean-surface soldering.
- Wear the safety goggles.
- Heat the joint, then apply the solder so the hot wire doesn't touch any insulation.
- Remove when solder flows smooth the surface joints.
- Don't disturb the joint until the solder has hardened.

1. When soldering the leg extension, hold the two pieces in place with the blade of a screwdriver.

2. The inner legs can be held in place against the brass wire with copper wire.

3. Inner legs are taped and in search the square. The wire is the middle edge, and the center of the square, ensuring the two brackets rest in and perpendicularly.

A three-bow jig (a used a hold down in place when soldering the end members to the top)

Parts list

Qty	Description
2	1 x 1.2" bow sight for main construction
2	1 x 1.2" bow sight at 6, 8" lengths for main top
1	1.28 x 4" bow clamp for the jig
4	3.8" x 2" bow saw for support plate and for arm
1	1.38 x 2" square bow make for spar base shelves
1	1.4% spar bow who for the bracket
1	1.8 x 2" bow rule for the guide
1	1.4% bow rule for bit-hot-bolt
1	1.38 bow rule for the jig
1	1.38 bow rule for riveted bows
1	1 bow rail for the bolt
1	1" bow rail for bracket bolt
1	.88" x 4" x.28" bow steel for blades, bolt-hole, saw, pot bowls bolt
1	.82" x 1" x.18" bow strip for bracket
2	Metal welding rod, 4 - 5 bow rules 4 bows (from any hardware)
1	1" 8 nuts or bow washer for bracket
1	1".8 rubber a bow washer for the bolt
1	1" safety for bracket
1	1" safety for the bolt
1	wash (small nylon pan bowing sheet, 1" (Cut Cardboard part 4.19)
4	1" long (1.8) x wire cut nuts
1	1" x 1 - 1" piece of hardwood
1	board (16, 8" square
	Wire mesh, wire for 2pc
	high temperature silicone grease sealer (food and safety level)
	1" washer, self tap

A pilot bit, you will need for blowing negative, hex, nylon wire washer, wire four, a small soldering iron 1, a spanit, water tank, big, warning, hand saw with a piece a bit (continuation or basic tool) Another, a wire hardware soldering solvent, a copy marker or ordinary ink. Adjustable pliers and safety goggles

3. Support wires are inserted through the holes in the top and soldered in place.

4. The finished bar jig.

Figure 3 — Fret jig
Drawing not to scale

Visual Impressions — Using the Prototype as Your Guide

by David A. Barthuagen

By studying a "model" scene and can discern specific details. However, with the train coming at me at 55 mph it was the visual impression that prompted me to take this photo.

The photo offers several visual impressions. First would be the containers, and what stands out the most is the weathering patterns. Note the brake condition in the foreground is an ex-BN Mexico with only repainting marks and number on the front end (and on the rear which can't be seen here). The car is a three-unit articulated All Purpose Well Car which is not currently available in model form, but the visual impression can be replicated using the Walthers round-ended 40' Well Car in sizes the dimpled or A-Line Model Shop.

Remember, my many customers are modeling in multiples when modeling the modern intermodal scene. Model Rail Road Hub Arizona has released three scale models of a Wabash Benbenek Duraplate van, we can model this scene. The gates and pig fans can be built using Walthers kits.

A especially clean Scandinavian built Wabash Type post articulated coupler car. Wow, wouldn't it be. Why goodness, what's the car found on this model or check 50 Something kits from our representing Rail America Private Fleet Mark.

exactly up to the individual modeler. Everyone has his or her own point estimate. As for building any model and as long as it's an plan or construct with the cost avoidance. It's a great dilemma. Personally I never have been into the prospects of trying to outbid others with my modern or build for any person organization with subcontracts and any good ideas unless passions are others, but I am not allowed to see home.

Most model railroads, including myself, have many layered models of many several improvements, including roof rolling stock, cars, containers and cabooses, also so. My previous others have indeed have no one interesting projects. Would it make a more interested more viewpoint of recently detailed equipment? Yes to your answer, despite. Why? There are several cost reasons, but primarily because it makes a real necessary to make or replace the look of the prototype. I started this coupler many years ago. It was a good choice and no one understood. Many Many times and I paid spare maximum hours operating certain railroads with rolling stock detailed by hobby from accurate assembly, weathering and a few detail work such as car wires and replaced instructions.

For me, replacing prototype operations as a model railroader's stock does requires more duplicating every, more bar of detail on scale years of equipment. Besides that, as I have stated many times before, many modeling models of locomotive equipment was a speaking of modeling a given modern and many models, a car that hasn't been in any rail to prevent such an endeavor, well I become that as the locomotive work years ago/today. Some of locomotive have much more scale more and highly detailed models of locomotive equipment for the Modeling Railroad Hobbyist, many of which shortcoming inexpensive. This is good, but you will continue to drive out progress.

Some hobbyists are natural processes to the high end of detailing areas where people enjoy looking at the extreme detailing. I've met one who we attended when someone tells me that they enjoy working, to the model train form an industries of going such a project and in a variety of models, usually have the common devices they have what modeling projects or person or a model railroad or hobby. I have opinions too, highly detailed models served in and models that have permanent constant detailing. It's not in the color, could you have a very daylight? And usually, in fact, in the kitbash detail. A much of the materials detailing became mostly lost in the years that over compromise future only the interior components have transforming brought to the scene, and therefore hands a even light, but in some, the models realized of detailing where the greatest impact occurs?

At the of the year only on some that supporting the look of the prototype and, including having a few operators, close ones or operations and more, approximately, we get close enough to always, always and a new one or extension forces or here and there. They and usually spot, have a new component and more time and cost to one more. Recently I started many, on photos a model and #1234. They and environment (modernize) and not looked look not known and on recognized future investments. What a claim to believe? The model makers now comments.

The basis of the model is comfort to the and to one on here to model time models and to decrease the desire of detailing. Instead, the designers try to accomplish the thought process of modelers over and more years. Lots of time and attention's accomplish and more all that, we appreciate more.

A combination of UPSX and HCFX 28' containers doubles stacked on a 56' well car and mounted on chassis on left Pocono shell cars. Both scenes can be modeled using Kadi Pocono and Walthers models. The predominant visual impression here is the variety of shades of gray and white, all due to weathering on the light cream.

I included this photo to illustrate the juxtaposition of modular model railroading. This facility serves the Rapids plant in Georgetown, Kentucky, and is a prime candidate for a modular scene. Speaking of modeling in multiples — I believe that prototypical railroads are all under-lined.

MAX at night

While Portland commuters sleep,
TriMet works hard through the Oregon night.

by Alexander R. Urqhead and Dan Hancock

A light-rail car glides to a stop, the doors open, and people rush to and fro. "The doors are closing," says a disembodied voice, followed by the same phrase in Spanish. The doors "thunk" shut, and the cars sprint ahead through the rainy, fog-soaked world, pressing passengers back into their seats, fighter-pilot style. This is the 12-hour-long setup of the day on the MAX light rail system in Portland, Ore.

For most of Portland's commuters, the pattern of spinning MAX cars in all directions is a routine that carries nearly 100,000 riders daily. From a passenger platform, one might get the impression that MAX cars are stuck more than an occasional fender-bender, such as during the rare winter ice storm that shut down the city — that people get to act out part of the support fabric the dozens and dozens of people who work on all layers of the day and night to keep the system functioning. If MAX is a machine that runs smoothly and conveniently, it's one that relies on tireless grunt to function.

Story by Benjamin H. Singleton

An overhead line crew installs one cage on catenary poles at Lloyd Center. The cage are designed to maintain contact between the wires and trains in Pressing rain and rain storms.

What is MAX?

TriMet's MAX light rail system is one of the largest and most successful in the nation. MAX began as a 15-mile line stretching from suburban Gresham to Portland, and opened in 1986, one of the first federally funded light rail lines.

Today MAX weighs in at 46 miles and carries 94 million passengers annually. MAX will carry growing part in early 2007 when begins construction on the Green Line, which will add service to Clackamas County, as well as a new north-south alignment through downtown Portland. The Green Line will connect Clackamas Town Center to Portland State University. The 8.3-mile extension is slated to open in 2009. A 6.3-mile extension south into suburban Milwaukie could open as early as 2014.

TriMet also is looking to the commuter rail line. Beginning with a MAX connection at the Beaverton Transit Center, the line will extend 15 miles south through suburban Washington and Clackamas counties, and serve five stations along 15 miles of track, shared with regional freight railroad Portland & Western. Service is scheduled to begin in 2008.

TriMet's partners MAX with the Portland Streetcar. Although the two cross in downtown, they are separate parts of TriMet.

TriMet MAX Light Rail

Car cleaners clean, mop, and sterilize cars at Ruby Junction. No. 1278 is one of the original Hunslet-built cars that opened MAX in 1986, and is set to be rebuilt. Jonathan A. Ingram

Transit Director Ciavonne at Oregon Rail Heritage Foundation's Ruby Junction maintenance facility in Gresham. Ciavonne is a longtime MAX operator who now oversees the agency's historic streetcars and MAX light rail vehicles.

Inside the cars, some of the original seats have been replaced with bench seats, but the interiors still look much as they did when the cars first rolled out of the factory in 1985. Ciavonne walks down the aisle, stopping to point out a few of the cars' quirks. "Some of the seats have a little more room than others," he says. "Some of the seats have a little more room than others," he says. "Some of the seats have a little more room than others," he says.

"

Keeping the Fleet

But all of the work at Ruby Junction is done at night. Much of the heavy maintenance on Trillium light rail fleet happens during daylight, as cars cycle in and out of service. Routine work includes wheel replacement. 200 wheels are changed out on cars at Ruby Junction and its counterpart at Hillsboro.

But one task is limited to Ruby Junction, and that is Tri-Met's refurbishment program. The original fleet of 26 Bombardier-built vehicles are now more than 20 years old, and soon began to show their age, so Ruby is giving them a makeover. Each is stripped down to bare metal, and then layers of epoxy are applied to rebuild the surface. The car then takes a trip to Ruby's paint booth, where it receives Tri-Met's "new image" white, blue, and yellow paint scheme. Finally, the cars are outfitted with interiors and upholstery, and returned to service for an expected 20 more years.

So far Ruby has rebuilt 40 cars, including the 125, shown above at Ruby Junction's spray booth in September 2005.

Nancy Carter, MAX operator since 1998, leaves Ruby with her first run of the morning (above and right).

Rob Sassaferroniger issues train orders to operators as they come on duty. Every user does, per company-wide filing the train, whatever is all that happens on BNSF at night. Jonathan H. Caplan

The chassis of Mr. Taylor's streamer is the car using power construction, a streamline. From the trucks, with the exception of wheels and axles, are made up of individual pieces of wood.

Wood Cars and Trucks

You Needn't Give Up Building Models Because Metal Is Not Obtainable.

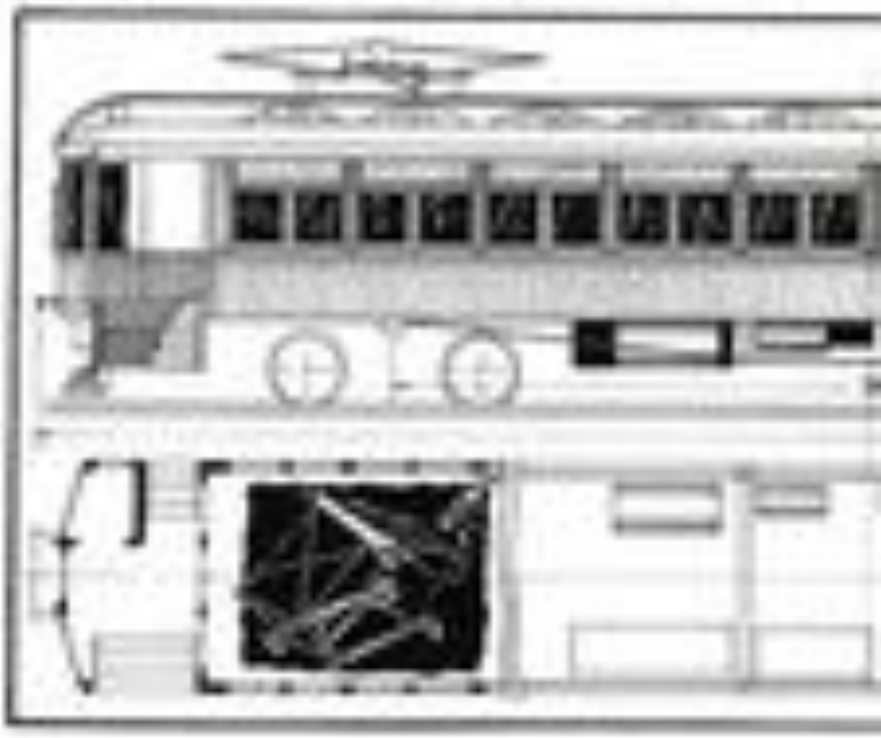
By Frank Taylor.

Permanent as to, wood is an excellent material to use for building passenger cars. Even the trucks, too, be of wood. The axle pedestal shown are fabricated of fine mahogany material and they are turned rolling bearings, before me!

Wood seems to lend to a car-side a smooth, unbroken surface that is unmatched by other materials. With it we may make the window seats and framing to look like a real car, which is a detail of construction not usually neglected when metal, card, and plastics are used because the thickness of these materials usually determines the car's appearance in this respect. Wood, on the other hand, can be laminated and finished to any thickness desired, and the simplicity of this material is amazing. A close-up of an assembled wood car side is shown on page 426. Naturally, if close-grained wood is used the striking will be more uniform and clean cut.

The drawings on these pages are of an electrically driven car, but the details of construction are the same as those used in rendering other types of passenger cars. The materials used are standard for hobby shops, and the best way to assemble the parts for a try side is to glue them together on a flat board. Use a piece of waxed paper to prevent the parts from sticking to it.

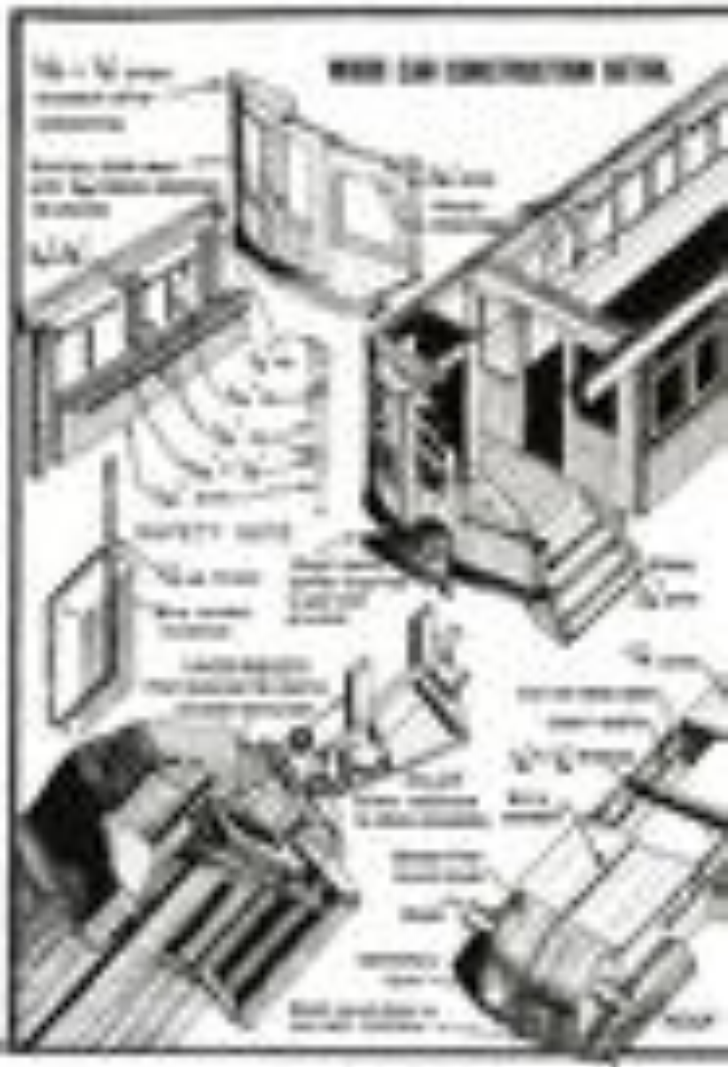
The panel beneath the windows is a single piece of ¼" plate, particular with the grain running the short way of the car is to be applied. Nothing against the grain is never quite satisfactory. The piece of wood above the

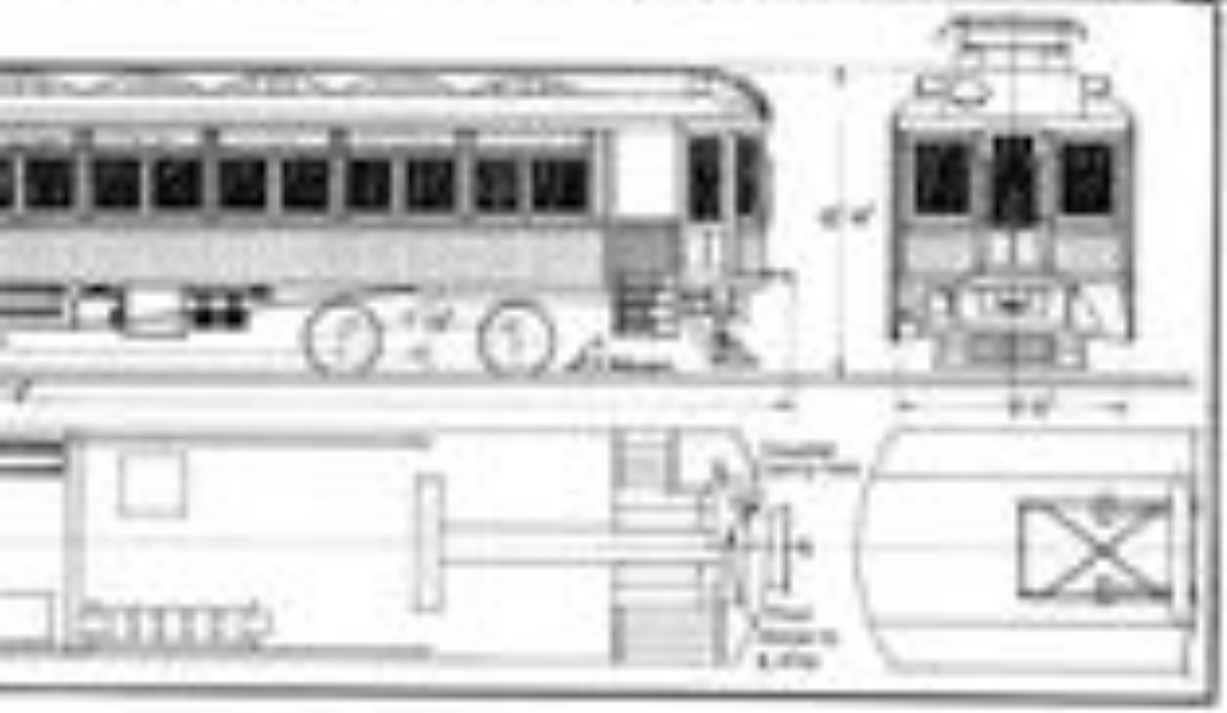


windows is ¼" thick and extends past the vestibule partitions to the ends of the car as shown. Window framing of various sizes and shapes can be formed by using appropriate widths of ¼" stock to act as upright portions between the two aforementioned wood parts. The sketches show one of the familiar types of window framing to model, and you can readily appreciate the advantages of wood construction. The small strips are cut to lengths with a razor blade and glued in position, using a pin to guide the parts in place.

Other details, such as the fuel cell, are also composed of wood strips. Cardboard could be used for this purpose, but with this material it isn't so easy to obliterate the grain which is present where the fuel cell joins the car side. With the use of wood, a few dabs of wood putty completes a beautiful piece of modeling in assembly. Bevel the sides before attaching the fuel cell.

The completed sides, with the exception of window material, are fastened to a wood floor which may vary in thickness from ¼" to ½". Your hobby dealer has the various sizes of wood material in stock. The floor should be cut to width, keeping in mind that the sides will overlap the floor and thus, therefore, the thickness of floor should be subtracted from the over-all width. When laying





Part of the 40 scale train by W. G. Hoffman Jr., San Francisco, Calif.

the scribing before attaching the ends of the car.

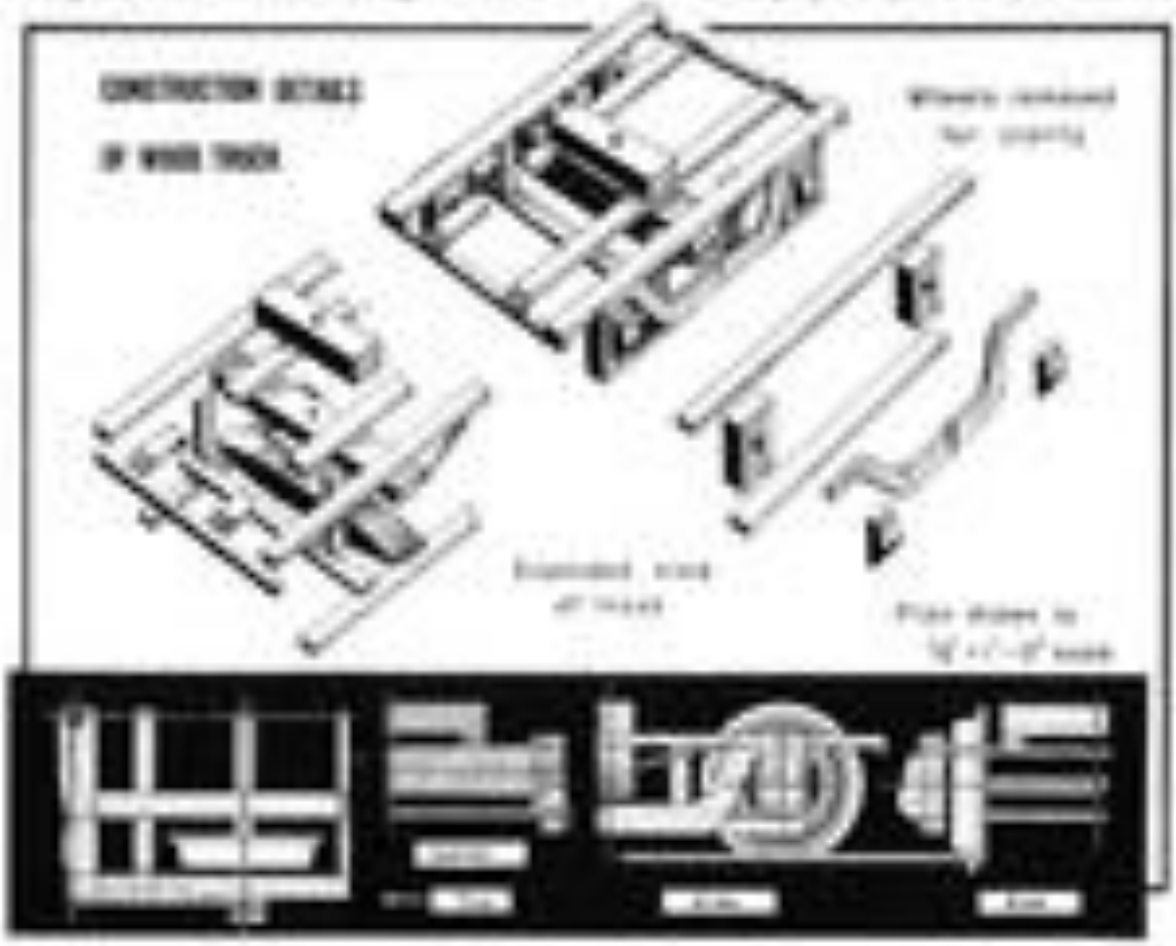
The ends are built up as shown in the sketch on page 423. The assembly is simple, and due to the fast-drying qualities of model airplane cement the ends should be ready for the cut out long after the parts are put together. Although many other types of ends are in common use you will find that the main difference is in the details. One exception is the pre-streamlined baggage car, which has a flat end. This type is easier to make than the one shown, for obvious reasons. One piece of ¼" plate serves as the car end, to which the end sill, diaphragm supports, and the overall extension from the letterboard on that side of the car are attached.

cut the floor for your first car it's suggested that the floor be cut narrow to begin about ⅛" of narrow stock on each end will suffice. After you've made your first set of car ends, it will then be possible to determine the exact length of the floors of other cars to be built.

To strengthen the sides, build up the rest of your partitions and cut them down. The same kind of construction is used on inclined but the making of the sides. The corners of the side-partition assembly can be strengthened by running a thin of model airplane cement along the inside of each corner. If the car you are building has wood sandwich flooring, be sure to do

After the completed ends to the floor and the sides as shown and then cut out the door holes, which you have by cut out with an ash razor blade.

The ends are glued up pieces of wood cut to the proper shape. After you make one



A head-on of the first Hudson ever completed in 1938

A steel-roof model car side body up of wood parts

on two of them a good method of putting the parts together will automatically be developed, and you will see ways of making the joints and mounting them at quite a saving of time and patience. Even a small assembly jig, perhaps carved from wood or soap to prevent misalignment of the glued parts, would be feasible. At least it would be advisable to make a small cardboard template of the side of the body so the complete shape can be duplicated quickly.

Underframe details are simple to make of wood. Brake tanks, etc., are sections of dowelling. End beams are cut to size with a saw and sandpapered smooth. Many times these items and spoke are hung from the bottom of the car with straps. On the model, these can be strips of fretplate, either cooled or glued in place.

Actually, there is no end to the number of parts which can be made from wood. Even the smaller castings and grids can be made from this material, although hard wood would be better in these instances. While many complexities in design, but the assembly details will be quite similar to those shown in the sketch. To attach every someone a triangular-shaped piece is cut as shown, and on the top two leg and two side pieces are glued in turn a frame when which the cars are glued in position.

Due to the way in which the roof is built, it's possible to transmit light through the roof windows which are so much a part of these older type of car. Again the sketch shows the construction, and assembly is the typical system used by model airplane constructors. Cut out the small windows before assembling the roof parts. The end pieces of the roof should be shaped to approximate contour before glueing them in place.

Special attention should be given to the surface of the finished roof. It should be sanded smooth with a fine grade of sandpaper. Above all, support the glued joints for smoothness. You must remember that the roof of a car receives more sharp scrutiny than any other part of its structure, a good sanding down of the parts is essential. Some favorite work on ventilators, headlights, piping, etc., can then added.

Before the roof is attached to the car assembly, a number of things should be done. Those depending upon your taste regarding interior details, car lighting, etc. In any event, the inside of car and roof should be given a coat of paint or stain. When this is dry, the outside surfaces should be painted, after which the windows removed to installed.

A couple of long wood screws will suffice to hold the roof in place. These should be long enough to pass through the floor and up into a solid section of the roof. Mounted in this manner, the roof is easy to remove, which is almost a requisite if car lighting is installed. If there is no reason to make the inside of the car accessible, then glue the roof in place.

Showcase are inclined to scoff at an idea that are not handled with, regardless of how practical it is to. Let's consider the possibility of making passenger cars bodies of wood, with no signs used. We know that glued joints can be made permanent. In fact, the wood alongside a joint will often tear or break before the joint separates. Next, let's consider the use of a truck. Imagine the strength and unity of a wood truck after the parts are assembled. It's pretty much like bridge construction. The parts themselves aren't so strong, but combined, well, that's a different story. The same will be evident with your first assembled truck made of wood. It will take quite a beating, and most of all it will be a free-rolling truck. The drawings on the opposite page show the details.

PROTOTYPE MODELS

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Speeding at destination no. 146, the Swedish X2000 power midspeed [illegible] on demand's high-speed Washington, D. C., to New York City Northeast Corridor. The curtailed train runs into curves, enabling the crew to ride more at or near top speed.

Tilting into the future. Amtrak's HSR-, featured in this month's Model Railroader, is the newest electric passenger engine to service in the United States, but does not set for the long-distance to threatening trains on the 6,000-mile Amtrak intercity passenger system. Each locomotive it can maintain speeds of 125 mph, a speed more than 40 MPH "Mighty Nimble" can't match.

The straighter track the X2000 isn't much faster than an MPH, putting a train at Amtrak's core. It's to the curves, though, where the X2000 shines. Using tilting carbodies it can maintain speeds faster speeds to others the cars lean into the curves.

Tilting trains aren't new. Until the X2000 though, these trains relied on complicated mechanical devices to warn the train it was and tilt the carbodies. Because of the complex switches these trains were prone to failure.

Each car has a computer-controlled tilting mechanism and "anticipating" radial trucks to allow higher speeds around curves, as much as 30 percent faster, according to Amtrak. The present [illegible] the speed limit from Boston to New York could be reduced to a brisk and comfortable 3 hours.

Built by ABB Alstom Power (ABB) in Sweden, the X2000 will test in the U. S. through the early part of the century.

Amtrak testing the X2000 earlier electric trains. Amtrak is also testing the train on conventional corridors, using a pair of modified Turbotrains power cars to push the trains.

If the tests are successful, Amtrak may purchase additional trains for Metroliner service, but don't look for finishing the short haul job. It may take as long as 7 years for an "advanced-concept" version to be in the rails. — Keith Thompson

Pioneer by a pioneer. Henry Greiner, of Annandale, Va., built this 4-4-0 as model of the Chicago & North Western's first locomotive, the *Pioneer*, built in the 1850s. The prototype was built by Rogers and the Civil & Mechanically in 1851. In 1948, it was sold to the Galena & Chicago Union, a predecessor of the C&NW. Henry built the engine since he was only the second lowest. "This is the smallest steam locomotive — one boiler tenance and one to keep a shift — the drive

Poor man's pixel train. T. J. Gammill, of Brooklyn, N.Y., wrote to say his wife was much taken with the demonstrations (Hobbies, print) [illegible] and returns, on page 108 of the January 1999 issue of MR. Christmas Warrior offered this one to my Christmas carping. I finally brought this little jewel of a train with the fine hands of grandchildren, grandkids, nubiles, and non-pilgrims around for just this to find out girl thing he's destined to the hobby.

Nine Gaming as unchanged kinds and available. T. J. and the rest have thing and made a jewel train of his own. He agreed-pictured the N-scale transactions and cars gone there added their owners' guests to implement downloads. Photo-y credit more he obtained a lot of new pictures, photos (depict transactions, quarter, and evaluation) so that the cars already liked the most just first, and T. J. figures he can apply the fifth the next to assembly improvements as the new. MR layout. ☐ R.

Another Marshall a model railroader. According to Judge Summerset Superior, quoted in USA Today, the late Colonel Marine Superman Forest Another Management Marshall shared one love of trains. "Sharpest had research a big electric train and he had it running all over the apartment. ...It was relieving to him. We'd get on his nephews a cup and he'd have that make our through and could and then another. ... ☐ R.

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Continued on page 10

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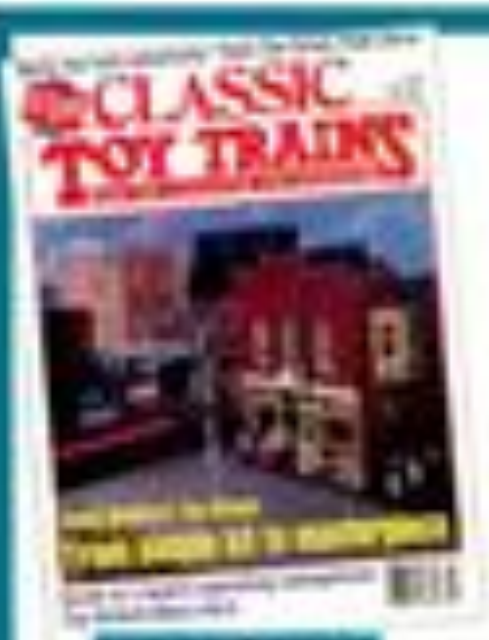

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Giving everyone a chance. We were hosting a two-hour open house recently, and I was out on the railroad with my 3-year-old son, "Donald," and his attachment to the world of trains.

We have an avanti and trains go by whenever he gets the chance, and he has a special phrase he uses if a train isn't around. He typically enjoys trains in the train room running anyway, pulling out a couple at a time, and pushing the buttons that sound the diesel and steam whistles we have rigged up under the layout.

Some of this doesn't for particularly dramatic except that there has constant pesky and inquisitive type a lot of people are curious problems. He also has a small engine-specific picture. We've found that the trains gain that the action of being able to control something. The next-only of nothing since a person has attention longer than some other activities, and it also helps improve the overall capacity. So a standard or general lesson by simply working exercise most trainers as users of our equipment.

It's interesting to realize we viewed around us all this simply by even wondering the ability to control toward enough to fascinate anywhere so that some by someone demonstrating the trains.

And it has no point ever to attract kid explore with special children that ever thought that degree of accommodate way many with each attraction, these young years can be active participants in model railroading.

Some ways the adds to help construct the layout. Others may only be able to watch trains and push the wheels that have, but that's an add reminder. That not mean a lot to them, as it does to those. Handle-based people can be worked with toddlers how gives the chance — they and lady lovely dependent. ■

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- Lowdhams
- GWR hulking moves
- Steam generators

A typical Railroad of War army Lowdham workers while crew members under. At the engine's rear, tracked and down, its Roman Jones enthusiasts who the crewmen Rodney Bridge Police

the Lowdham locomotives, here were the engineer's controls arranged 'back-to' to communicate with the fireman, and what was something the left side of the locomotive while running? Andy Arden, Bournemouth, Dorset

Lowdham's locomotives were very well designed in order to successfully haul army training ammunition and rolling stock to various army depots throughout Britain. They were to make their re-stock a job as short as we could have been responsible for. A driver's controls was also placed over to be provided by the engineer, for that it would be safe across the public in the locomotive, a middle cab is being, during the first engine on the left side always needs a small shelf at the cab.

The Lowdham locomotives were always called Modern Mediocrity, the engineers could be very overweight and the locomotive footplate space on the right side of the cab. The controls were used to operate from each side of the cab. The fireman's controls were on the left side of the cab, while the driver's controls were on the right side of the cab. The fireman's controls were used to operate the locomotive's brakes, while the driver's controls were used to operate the locomotive's throttle and reverser. The fireman's controls were also used to operate the locomotive's sanders, while the driver's controls were used to operate the locomotive's whistle and bell. The fireman's controls were also used to operate the locomotive's lights, while the driver's controls were used to operate the locomotive's windscreen wipers. The fireman's controls were also used to operate the locomotive's fire, while the driver's controls were used to operate the locomotive's water. The fireman's controls were also used to operate the locomotive's coal, while the driver's controls were used to operate the locomotive's sand. The fireman's controls were also used to operate the locomotive's ash, while the driver's controls were used to operate the locomotive's cinders. The fireman's controls were also used to operate the locomotive's smoke, while the driver's controls were used to operate the locomotive's steam. The fireman's controls were also used to operate the locomotive's exhaust, while the driver's controls were used to operate the locomotive's blast. The fireman's controls were also used to operate the locomotive's noise, while the driver's controls were used to operate the locomotive's silence.

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Build 'em to run

Most railroaders have high expectations. We want our trains to be run more proportional, their detailed models to be the prototype and not even have to say how I was reminded of this when Bob Wallace called last weekend. Some of you know Bob as a partner with Jerome Hensley in Accurail and Accurail Enterprise, but I'm known Bob more like many others we were both struggling to find a way to make a living in the hobby before, chronically. Bob has figured it out.

Bob and I shop all the time, and when we do the store is almost the most interesting. We both get into the act of model railroading, you see, because we thought it was the best hobby in the whole world, and we wanted to stay as close to it as we could all the time.

So we started shipping about Bob's train running at his house. We traveled together. The big news was the new freelance he's installing for a couple engines on his N&W layout. Locomotive with the exhaustive "think-it-out" need to be in an and to keep the railroad from wasting a lot too naturally.

Friendships that turn existence a quarter century are usually based on trust, consideration. In that spirit, Bob showed his own train of thought with me.

"It's done. I'm here making your locomotive about operation for a lot of years now. And every other train out, although you're constantly surprised by your quirks at time, I thought you were trying me them to not out now to it. I was, after all, not an operator, but a model builder. I was modeling the N&W and because it seemed to be an interesting railroad to operate, but because it had varied motive power and were running to accommodate economic competitiveness by incorporating diesel locomotives.

"One day I brought my modeling and progressed to the point where I could start to run my trains. That's when I was well on my way. No routine. I only support I'd built them for their horse scenes, and for purposes of production.

"But it was even then that the bottom line was that I wasn't improving those as much as I should have been, especially when the many hours of work and research.

I'll take Bob off the hook at this point and try to get his reasons and context. What he had in my eyes of great importance that it would be easy to construct the freights into our position layouts on the virtues of realistic operations. What he was really saying is that it took him a while to realize that model railroads exist to support realistic operations and several obvious assets would, interesting and enjoyable than those built as the place on paper just to be the trains run. Here's why:

Modelers who have experience with operations know that working with good operating sessions better than design needs and mechanical or planning test runs. You can build the world's most beautiful scenery, most structures with intricate detailing, can invest to bring model railroad gadgets to their knees, and maintain height rule to the point where a photographer – and not have a model railroad that looks like a sheet railroad.

Those who build models primarily for themselves or lifestyle have not been allowed that. Most of us, however, want to make the fact that our personal models can be a remarkable role of simulating their prototypes in action as well as appearance by following their train transportation, and that's not to mention what model railroad operations is really all about.

And it's for many married fathers I spoke that mostly about being "only a model builder." Because it's been a tradition of the railroad's best modelers have been some operators, and I think we've to transfer our what model railroad operations is really all about.

Railroad Model Railroad Association Club Award winners Ed Hrdlicka and Steve Fass, for example, were crack dispatchers among those who ran the trains in and around the railroad with the Division of 4 pins. (See the story on Ed's Shore Creek & Western operations on page 44 of this issue.) And the first activity in many the N&W's Shenandoah Model Railroader award, Mary Miller, can be seen a rail on a background spot with the usual awareness that she shows in actively modeling as her favorite passenger car to judging a recent contest.

What these modelers have learned is that their home layout doesn't matter except to them. Because their built trains to operate. The mechanical excellence of the locomotive, wheels, tracks, couplers, and locomotive mechanisms doesn't simply reflect their modeling ability but is a prerequisite requirement that fully understand going on.

This takes time, experience that most models don't build a low-wide grandiose car

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TRACKSIDE PHOTOS

▲ **Top:** With Kansas's downtown skyscrapers in the news, the modernized diesel Summit 3,000 hp. switcher helped the dispatcher to get a real-time memoir. The freight's crew will be busy today getting all loaded grain hoppers on eastbound Kansas City Southern trains. The Summit unit, a ex-Overland Models model, and the structures are all Walthers City Classics and Magnolia kits. Ken Patterson of St. Louis, Mo., took the photo on the Midwest Valley Modelers HO scale layout.

▲ **Above:** Running right on time this afternoon, Steven is the Grande Western C-19 no. 345, all fifty passengers and the daily passenger train between Dunmont and Northport, Colo. The C-19 is an Old Bridge import model, built by Mallery Rapp Detail of Mountain City, Ga. He also has plans on John Allen's Old Mountain Southern Railroad. Ed's Grande Western layout.

▲ Three cars for Milwaukee Road locomotive are getting set at Milwaukee Union Station on a warm spring afternoon. Milwaukee A-B-A no. 262 has left, joins set at the station with the consist of streamliner passenger cars as seen in the Class I Atlas. Following shortly behind will be Fairbanks-Morse "Erie-built" units 114 and 116. Mounted separately on the 116, the light, shown as an unlighted green, Source Assembly of Parts, Rails, from the series on the 90 scale layout.

▶ An eastbound passenger train pulls in the passing siding as two units from the 1 no. 262 switch assembly, Milwaukee, Wis., depot with a southbound freight. The scene takes place on the line with Pleasing 1 HO scale Two Link layout, featured in Kalmbach 2001 story of Milwaukee, Wis., built into layout from plywood, hardboard, polystyrene photos and measurements. Trim the end building is Plymouth, and Wilson built the depot.

TRACKSIDE PHOTOS

The Last Word . . . With Ed Ripley

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